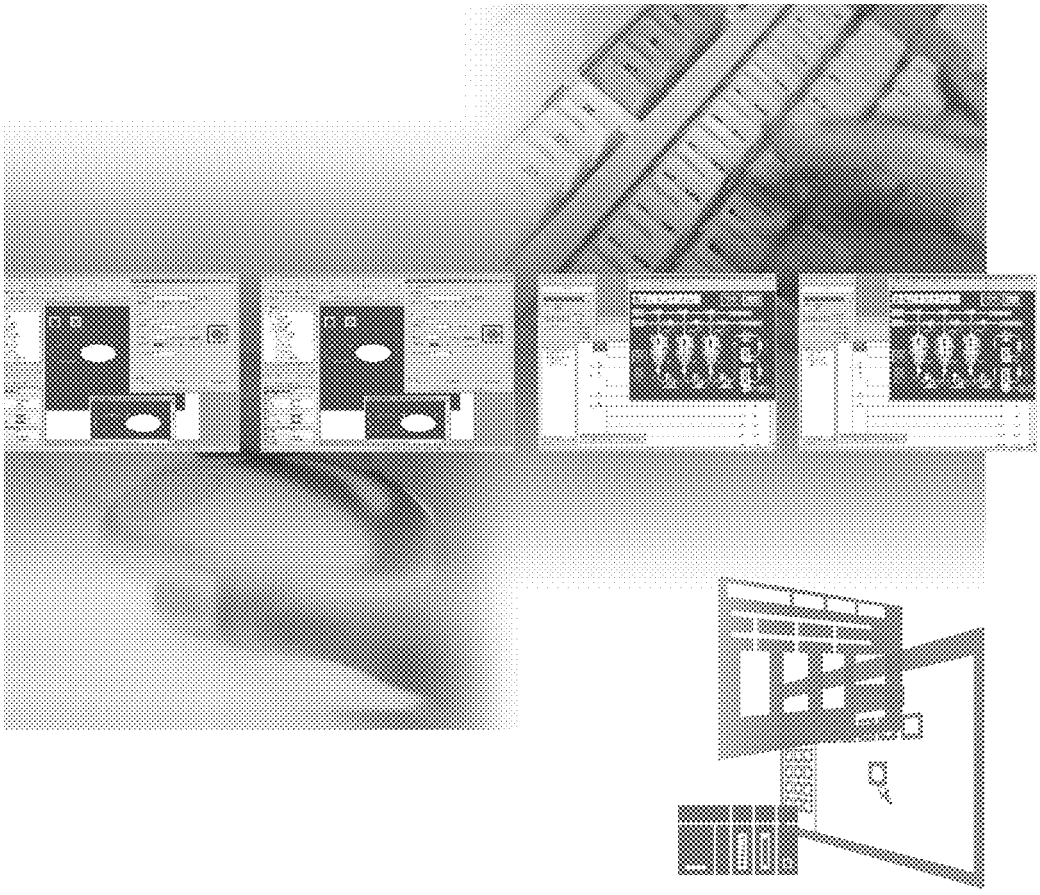
GT Works2 Version1/ GT Designer2 Version1

MITSUBISHI

Operating Manual

Startup•Introductory Manual

MELSOFT



MELSOFT MITSUBISHI TOTAL FA SOLUTION

GT Designer 2

GT Simulator 2

GT SoftGOT 2

MELSOFT
Integrated FA Software

SW1D5C-GTWK2-E
SW1D5C-GTD2-E

• SAFETY PRECAUTIONS •

(Be sure to read these instructions before using the product.)

Before using this product, read this manual and the relevant manuals introduced in this manual carefully and handle the product correctly with full attention to safety.
Note that these precautions apply only to this product.
In this manual, the safety instructions are ranked as "DANGER" and “CAUTION”.

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

Note that failure to observe the ⚠CAUTION level instructions may also lead to serious results according to the circumstances.
Be sure to observe the instructions of both levels to ensure personal safety.
Please keep this manual in accessible place and be sure to forward it to the end user.

[DESIGN PRECAUTIONS]

⚠ DANGER

- Output may remain ON or OFF due to failure of the GOT, communication board or cable.
  For the output signals that may cause a serious accident, create an external fail safe circuit.
  Faulty output or malfunctions may result in an accident.
- When a communication error (including cable disconnection) occurs during monitoring by GOT, communication between GOT and PLC will be interrupted and GOT operation will be disabled.
  In the case of bus connection: CPU goes down and GOT is disabled.
  In the system configuration including a GOT, an external circuit that controls the critical operation of the system such as an emergency stop switch needs to be included in case a communication failure with the GOT occurs.
  Faulty output or malfunctions may result in an accident.

⚠ CAUTION

- Do not install the control or communication cables together with the main circuit or power cable or do not bring them close to each other. The distance of 100mm (3.9inch) or more should be ensured.
  Failure to do so may cause malfunctions due to noise.

A - 1

[INSTALLATION PRECAUTIONS]

DANGER

- Be sure to shut off all phases of the external power supply before installing or removing GOT to/from the panel.
  Failure to do so may cause failure or malfunctions of the module.
- Be sure to shut off all phases of the external power supply before installing or removing the communication board to/from GOT.
  Failure to do so may cause failure or malfunctions of the module.

CAUTION

- Use the GOT in the environment specified in the user's manual of the GOT.
  Failure to do so may cause electric shock, fire, malfunctions or product deterioration or damage.
- Tighten the mounting screws within the specified torque range when installing the GOT to the panel.
  Loose tightening may cause a fall, short circuits or malfunctions.
  Overtightening may damage the screws and/or the module, resulting in a fall of the module, short circuits or malfunctions.
- Tighten the mounting screws within the specified torque range when installing the communication board to the GOT.
  Loose tightening may cause a fall, failure or malfunctions.
  Overtightening may damage the screws and/or the module, resulting in a fall of the module, failure or malfunctions

[WIRING PRECAUTIONS]

DANGER

- Be sure to shut off all phases of the external power supply before wiring.
  Failure to do so may cause electric shock, product damage or malfunctions.

⚠ CAUTION

- Always ground the FG, LG and protective ground terminals of the GOT power supply area to the protective ground conductor.
  Failure to do so may cause electric shock or malfunctions.
- Confirm the rated voltage and terminal layout and connect the GOT to the power module correctly.
  Connecting to a power supply with incorrect rated voltage or faulty wiring may cause a fire or failure.
- Tighten the terminal screws of the GOT power supply area within the specified torque range.
  Loose tightening may cause short circuits or malfunctions.
  Overtightening may damage the screws and/or the module, resulting in short circuits or malfunctions.
- Be careful not to let foreign matter such as dust or wire chips get inside the module.
  This may cause a fire, failure or malfunctions
- For the bus connection cable, insert it to the connector of the module until a click sound can be heard.
  Make sure of proper connection after installation.
  Improper connection may cause malfunctions.
- For the communication cable, install it to the connector of the module and tighten the mounting screws or terminal screws within the specified range.
  Loose tightening may cause short circuits or malfunctions.
  Overtightening may damage the screws and/or the module, resulting in short circuits or malfunctions.

[TESTING PRECAUTIONS]

⚠ DANGER

- When testing the operation of the user-created monitor screen (e.g. bit device ON/OFF or change of the word device current value, the timer/counter current or set value, the buffer memory current value), thoroughly read the relevant manual to fully understand the operating procedures.
  In the test operation, never change the data of the device which operation is critical to the system.
  Doing so may cause an accident due to faulty output or malfunctions.

[START-UP/MAINTENANCE PRECAUTIONS]

DANGER

- Do not touch any terminal while the module is energized.
  Doing so may cause electric shock or malfunctions.
- Be sure to shut off all phases of the external power supply before cleaning or retightening the terminal screws.
  Failure to do so may cause failure or malfunctions of the module.
  Loose tightening may cause short circuits or malfunctions.
  Overtightening may damage the screws and/or the module, resulting in short circuits or malfunctions.

CAUTION

- Do not disassemble or remodel the module.
  Doing so may result in failure, malfunction, personal injury or a fire.
- Do not directly touch a conducting part or electronic parts of the module.
  Doing so may cause malfunctions or failure of the module.
- Be sure to secure communication cables and power cables connected to the module by ducts or clamps. Failure to do so may cause damage of the module or the cables due to accidental pull of dangling cables, or malfunctions due to poor cable connection.
- Do not hold the communication cable part by hand when pulling it out from the module.
  Pulling the cable connected to the module may cause damage to the module or cable, or malfunctions due to poor cable connection.
- Always make sure to touch the grounded metal to discharge the electricity charged in the body, etc., before touching the module.
  Failure to do so may cause a failure or malfunctions of the module.

[DISPOSAL PRECAUTIONS]

CAUTION

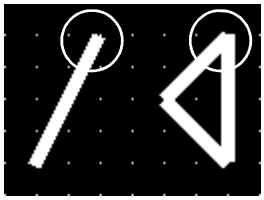
- When disposing the product, treat it as an industrial waste.

A - 4

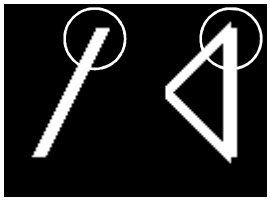
Cautions for using this software

1. Required PC memory
   The processing may be terminated by Windows® on a personal computer of which main memory capacity is less than 64M bytes. Make sure to secure the capacity of 64 M bytes or more.
2. Free capacity of hard disk (virtual memory)
   At least 50M bytes of free capacity of virtual memory should be secured within hard disk to run this software. The processing may be terminated by Windows® if 50M bytes or more of free space cannot be secured within hard disk while running GT Designer2.
   Secure enough free capacity of virtual memory within hard disk space in order to run the software.
   When enough free capacity cannot be secured, make sure to save projects frequently.
3. Error messages displayed while starting and editing
   "Operation will be terminated because of insufficient memory. Would you like to stop?"
   If the above message appears, close other running application software or reboot Windows® in order to secure at least 50M bytes of free hard disk space.
4. GT Designer2 and GOT display
   (a) Cautions for displaying straight line other than full line (dotted line, for example) in Bold
   When straight line other than full line is drawn in bold, the line may not be displayed with its actual line width on a personal computer.
   However, it will be displayed correctly on GOT. This phenomenon does not mean data problem.
   (b) Display of end points of straight line/line freeform/polygon
   As shown below, the end points of straight line/line freeform/polygon are displayed differently between GT Designer2 and GOT.

On GT Designer 2



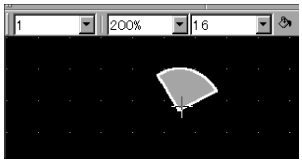
On GOT



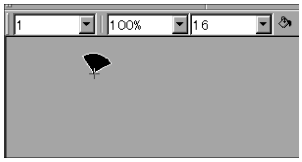
   (c) Start position for filling patterns
   Some filling patterns may be differently displayed.
   For example, the start position may be different between GT Desginer2 and GOT.
   (d) Drawing of different type lines
   The length of the dots varies in different dotted lines (for example: the chain lines).
   (e) Display of object
   The display position of the memory data display in graph function is different between GT Designer2 and GOT.
   Even if the display-start-line of a comment has been set, the comment will be displayed from the first line on GT Designer2.
   (f) Display magnification
   When display magnification is changed, the connected lines or figures may be separated or the filled-paint may be out of outline of the figure.
   However, if they are displayed correctly on the preview screen, they will appear correctly on GOT as well.

   (Example): When filled-paint is out of the outline.

Display magnification: 200%



Display magnification: 100%



Position of Paint mark may be shifted and the filled-paint may be out of the figure outline.

5. Restrictions when the color setting is changed to the setting of less colors in the system environment (256 colors → 2 colors)
   The color palette for setting color will be changed according to the updated settings.
   The color on the drawing screen will be kept the same as prior to the change.
   If the color setting for a [red] rectangle-figure is changed to the 2 colors (B/W), the [red] color will remain.
   The colors of the image data (for example: BMP files) will be reduced when the project is saved.

6. Object function and device type
   he object (bit lamp or word lamp),for which bit device setting and word device setting are separated, cannot be converted between bit device and word device.

7. When device type is changed
   Confirm the device type when the set bit device is changed from bit device into word device.
   The device flag may be represented as “??” ,depending on the settings .
   (Example) D0. b0 → D0 D0.b5 → ??

8. OS setting
   Set the font size as “Small Font” when setting OS (Windows®) screen.
   The GT designer2 dialog box cannot be displayed correctly if the font size is set as “Large font”.

9. When the toolbar icon appears in smaller size after startup of GT Desinger2
   The toolbar icon may appear in smaller size right after GT Deseiger2 is started up.
   To correctly display the icon, initialize it as instructed below.
   (Click on [Project] → [References] from the menu, and select the toolbar tab. Click on Reset All button in that tab.)

10. When using GT Designer2 in the PC in which the OS other than Japanese version
    The text may not be displayed correctly depending on the OS versions; some version include the fonts incompatible with GT Designer2 or GOT.

A - 6

REVISIONS

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

Print Date	Manual Number	Revision
Apr., 2003	SH (NA)-080250-A	First edition
Aug., 2003	SH (NA)-080250-B	Partial corrections Chapter 5
Jan., 2004	SH (NA)-080250-C	Partial corrections Section 3.2, Section 4.4, Section 7.2.1, Section 7.4.2, Section 7.4.3, Section 7.4.4
Sep., 2004	SH (NA)-080250-D	Partial corrections SAFETY PRECAUTIONS, Manuals, WARRANTY MODEL CODE change Change from 13JU25 to 1DM203

Japanese Manual Version SH-080241-E

SOFTWARE USER REGISTRATION

After agreeing to the terms of the Software License Agreement included in the package, please access the MELFANSweb Home Page (http://www.MitsubishiElectric.co.jp/melfansweb) and make a software user registration. (User registration is free of charge.)

(1) Software Registration

You can make a software registration by accessing the MELFANSweb Home Page or faxing or mailing the "Software Registration Card" packed with the product.

After you have made a software registration, we will register the user and send the "Software registration confirmation" together with the user ID.

We will also provide the latest information, such as the new product release, version upgrade information and event information, by direct mail.

(2) Notes on Contact

Please ask questions concretely and clearly using terms listed in the manual.

When requesting us to solve a problem, provide us with detailed information for reproducing the problem.

In addition, contact the respective manufacturers when asking questions about the operating system (OS) or the other vender's software products

User registration is valid only in Japan.

A - 8

Manual Configuration

The following explains the manual configuration

Chapter 1	Overview	Provides the overview of this manual.	1
Chapter 2	Software Package Configuration	Describes the software and data contained in the product.	2
Chapter 3	System Configuration	Explains the system configuration of the product.	3
Chapter 4	Installation and Uninstallation	Describes the installation, uninstallation and start of the product.	4
Chapter 5	How to Use The Online Manual	Describes how to use the online manual.	5
Chapter 6	What is The GOT?	Describes what the GOT is.	6
Chapter 7	Creating The Monitor Data	Describes the procedure to create simple monitor data actually.	7
Chapter 8	Executing Monitor ON The GOT	Describes the monitoring method with the GOT using the monitor screen data created in Chapter 7.	8

A - 9

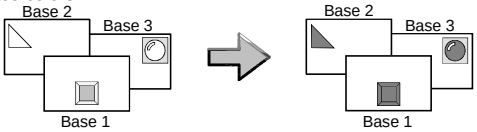
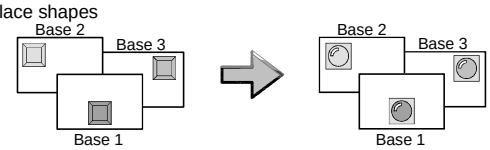
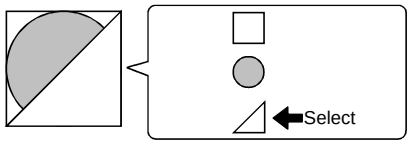
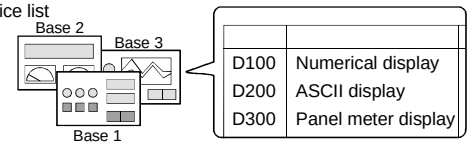
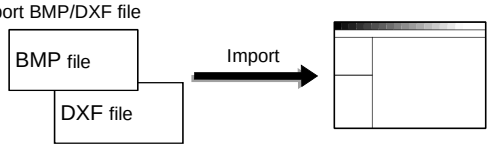
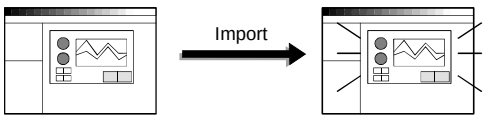
INTRODUCTION

Thank you for choosing Mitsubishi Graphic Operation Terminal (Mitsubishi GOT).
Read this manual and make sure you understand the functions and performance of the GOT thoroughly in advance to ensure correct use.

CONTENTS

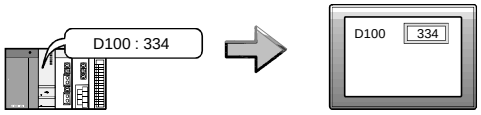
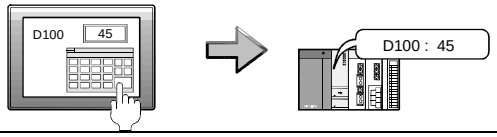
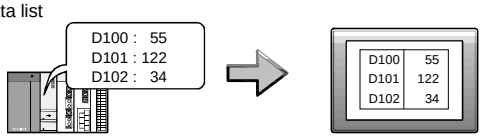
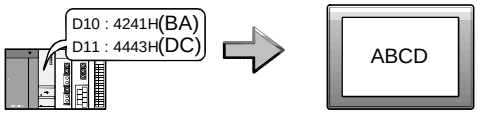
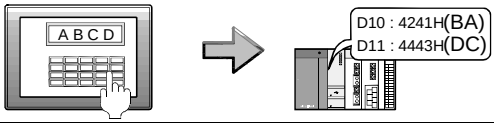
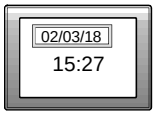
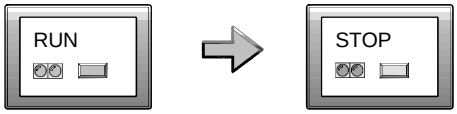
Function Quick Reference

Edit Operation (GT Designer2 Version1 Operating Manual)

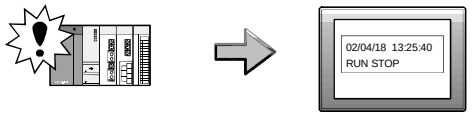
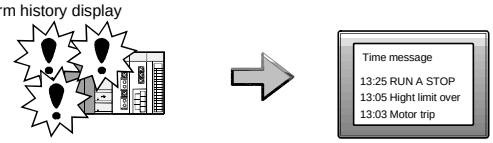
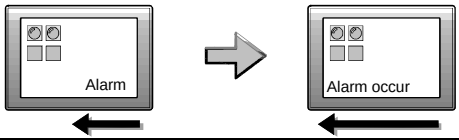
Image	Function	Page
Align 	Aligns objects or images	Page 8-18
Property sheet 	Sets same attributes to objects or images in the same screen	Page 9-1
Replace colors 	Changes the color(s) of the objects and figures arranged on plural screens at the same time	Page9-10
Replace shapes 	Changes the switch/lamp figures at the same time	Page9-10
Replace devices 	Changes the preset devices at the same time	Page9-10
Data View 	Overlapping images or objects	Page 9-14
Device list 	Display the set device in list	Page 9-15
Multiple language input 	Input characters or comments in other language.	Page9-21
Import BMP/DXF file 	Imports BMP/DXF files	Page8-10
Import Project 	Utilizes other project data	Page9-28

Object Functions (GT Designer2 Version1 Reference Manual)

1 Digit/font display

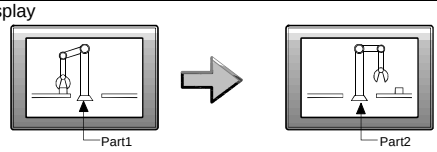
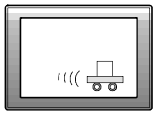
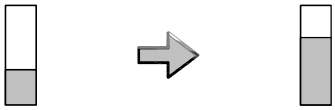
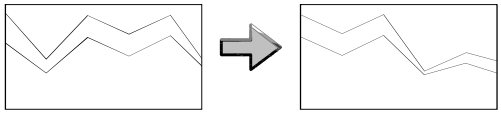
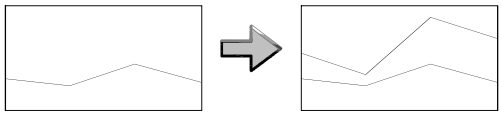
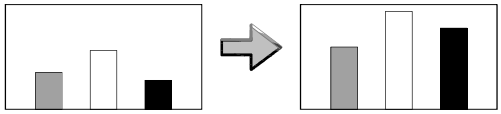
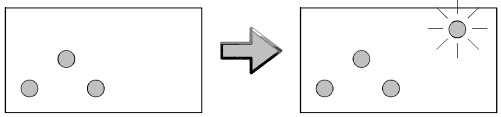
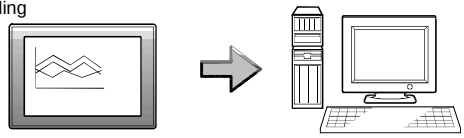
Image	Function	Page
Numerical display 	Displays device value in numerical value	Page 5-61
Numerical input 	Write value on device	Page 5-61
Data list 	Display multipledevice value in list	Page 5-85
ASCII display 	Displays device value in text	Page 5-100
ASCII input 	Inputs text code device	Page 5-100
Clock display 	Displays hour/minutes, year/month/date	Page 5-112
Comment display 	Displays command	Page 5-118

2 Alarm

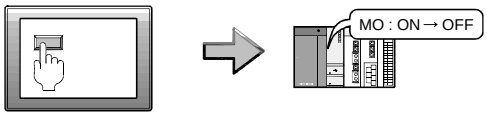
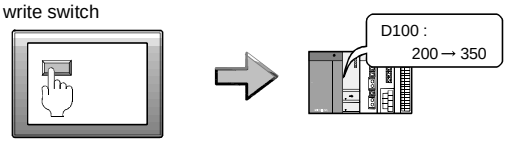
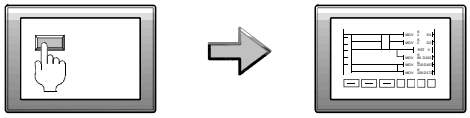
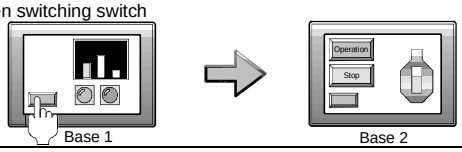
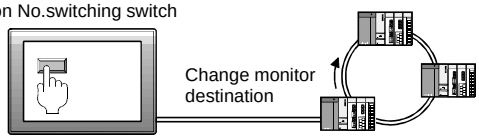
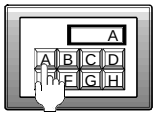
Image	Function	Page
Alarm list 	Displays message at alarm occurence	Page 5-137
Alarm history display 	Displays alarm history	Page 5-160
Alarm flow 	Displays alarm in floating	Page 5-186

A - 13

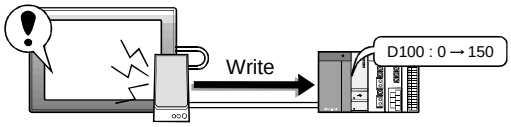
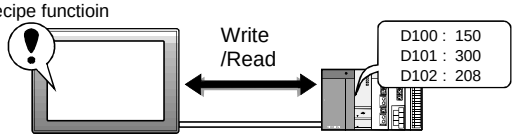
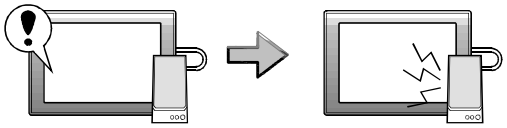
3 Animation

Image	Function	Page
Parts display 	Display entered device	Page 5-191
Parts movement display 	Displays moving parts	Page 5-209
Lamp display 	Displays device value via lamp color changing	Page 5-238
Panel meter display 	Displays device data on panel meter	Page 5-252
Level display 	Displays device data in proportional level	Page 5-264
Trend graph display 	Displays device data in trend graph	Page 5-276
Line graph display 	Displays device data in line graph	Page 5-289
Bar graph display 	Displays device data in bar graph	Page 5-301
Statistics graph display 	Displays device data in statistics graph	Page 5-313
Scatter graph display 	Displays device data in scatter grap	Page 5-323
Sampling 	Collect the device value and edit collected data on PC	Page 5-341

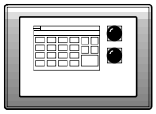
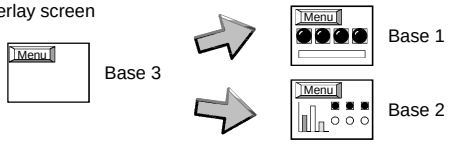
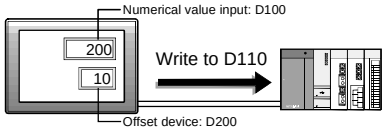
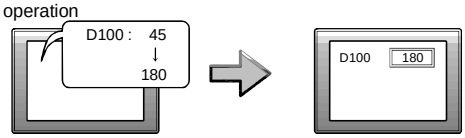
4 Touch switch

Image	Function	Page
Bit switch 	Touch it to switch device ON/OFF	Page 5-348
Data write switch 	Touch it to change bit device value	Page 5-364
Extended function switch 	Touch it to switch to the extended function screen	Page 5-369
Screen switching switch 	Touchitto switch between the base and window screen	Page 5-377
Station No.switching switch 	Touch it to switch the monitored PLC station No.	Page 5-387
Key code switch 	Used as the key for inputting numerical value/ASCII	Page 5-393

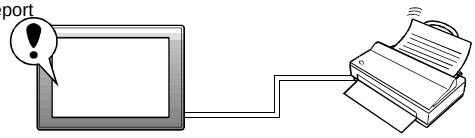
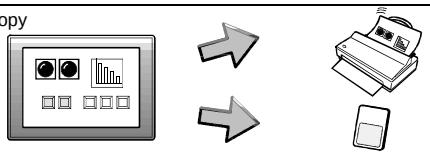
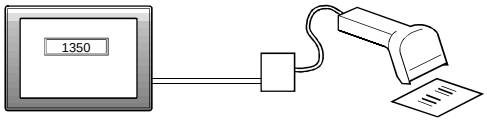
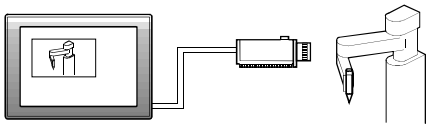
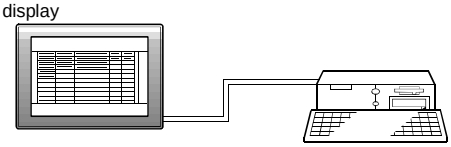
5 Trigger → action

Image	Function	Page
Status observation function 	Monitors status of device and write value to device or operates GOT when condition meets	Page 5-412
Recipe functioin 	Monitors status of device and write/read device data when condition meets	Page 5-421
Time action function 	Outputs the device writing and sound at specified time.	Page 5-430

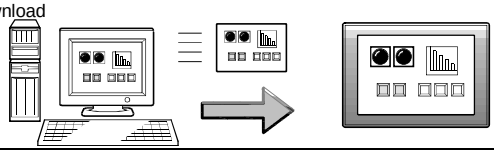
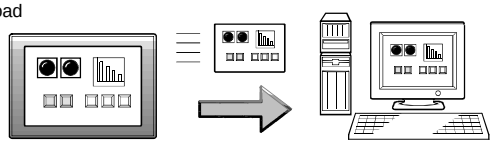
6 Auxiliary

Image	Function	Page
Test 	Changes device value via test window in monitor screen	Page 5-437
Script 	Controls GOT display by scripts	Page 5-440
Set overlay screen 	Set overlay screen from other screens	Page 5-451
Security 	Restricts the password users	Page 5-52
Offset 	Accumulates the offset device value in monitor device address and monitor.	Page 5-48
Data operation 	Operates device values by expression and enables objects using the operated value	Page 5-41

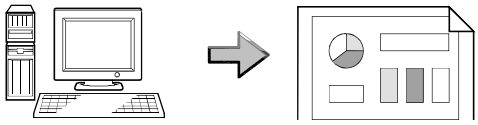
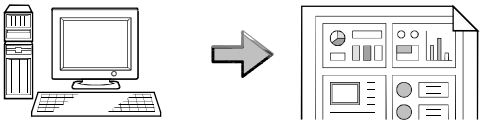
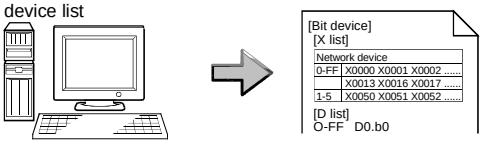
7 External input/output

Image	Function	Page
Report 	Collects numerical data when condition meets and prints the numerical data and corresponding code.	Page 5-459
Hardcopy 	Outputs the GOT monitor screen to printer or PC card	Page 5-482
Operation panel 	Uses operation panel to execute device writing	Page 5-488
Bar code 	Writes data read by barcode reader to device	Page 5-496
Sound 	Outputs sounds	Page 5-501
Video 	Displays video	Page 5-505
RGB display 	Displays PC screens	Page 5-523

Data Transmission (GT Designer2 Version1 Operating Manual)

Image	Function	Page
Download 	Transimits monitor screen data from PC to GOT	Page 5-1
Upload 	Transmits monitor screen data from GOT to PC	Page 5-17

Print (GT Designer2 Version1 Operating Manual)

Image	Function	Page
Print screen 	Print base/window/report screen	Page 6-1
Print screen list 	Print base/window/report screen	Page 6-1
Print device list 	Prints list of the device used	Page 6-1

A - 18

Manuals

Relevant Manual

For relevant manual, refer to the PDF manual stored within the drawing software.

A - 19

Abbreviations and Generic Terms in This Manual

Abbreviations and generic terms used in this manual are as follows:

■ GOT

Abbreviations and generic terms		Description			
GOT-A900 series	A985GOT-V	A985GOT-TBA-V,	A985GOT-TBD-V		
	A985GOT	A985GOT-TBA,	A985GOT-TBD,	A985GOT-TBA-EU	
	A975GOT	A975GOT-TBA-B, A975GOT-TBA-EU	A975GOT-TBD-B,	A975GOT-TBA,	A975GOT-TBD,
	A970GOT	A970GOT-TBA-B, A970GOT-SBA, A970GOT-TBA-EU,	A970GOT-TBD-B, A970GOT-SBD, A970GOT-SBA-EU,	A970GOT-TBA, A970GOT-LBA, A970GOT-LBA-EU	A970GOT-TBD, A970GOT-LBD,
	A97＊GOT	A975GOT,	A970GOT		
	A960GOT	A960GOT-EBA,	A960GOT-EBD,	A960GOT-EBA-EU	
	A956WGOT	A956WGOT-TBD			
	A956GOT	A956GOT-TBD, A956GOT-TBD-M3, A956GOT-SBD-B,	A956GOT-SBD, A956GOT-SBD-M3, A956GOT-SBD-M3-B	A956GOT-LBD, A956GOT-LBD-M3	
	A953GOT	A953GOT-TBD, A953GOT-TBD-M3, A953GOT-SBD-B,	A953GOT-SBD, A953GOT-SBD-M3, A953GOT-SBD-M3-B	A953GOT-LBD, A953GOT-LBD-M3	
	A951GOT	A951GOT-TBD, A951GOT-TBD-M3, A951GOT-SBD-B,	A951GOT-SBD, A951GOT-SBD-M3, A951GOT-SBD-M3-B	A951GOT-LBD, A951GOT-LBD-M3	
	A951GOT-Q	A951GOT-QTBD, A951GOT-QTBD-M3, A951GOT-QSBD-B,	A951GOT-QSBD, A951GOT-QSBD-M3, A951GOT-QSBD-M3-B	A951GOT-QLBD, A951GOT-QLBD-M3	
	A950GOT	A950GOT-TBD, A950GOT-TBD-M3, A950GOT-SBD-B,	A950GOT-SBD, A950GOT-SBD-M3, A950GOT-SBD-M3-B	A950GOT-LBD, A950GOT-LBD-M3	
	A95＊handy GOT	A950GOT-SBD-M3-H,	A950GOT-LBD-M3-H,	A953GOT-SBD-M3-H,	A953GOT-LBD-M3-H
	A95＊GOT	A956GOT, A950GOT	A953GOT,	A951GOT,	A951GOT-Q,
GOT-F900 series	F940GOT	F940GOT-SWD,	F940GOT-LWD,	ET-940BH(-L),	ET-940PH(-L)
	F930GOT-K	F930GOT-BBD-K			
	F930GOT	F930GOT-BWD,	F933GOT-BWD,		
	F920GOT-K	F920GOT-BBD5-K,	F920GOT-BBD-K		
	F940 handy GOT	F940GOT-SBD-H, F943GOT-SBD-H,	F940GOT-LBD-H, F943GOT-LBD-H,	F940GOT-SBD-RH, F943GOT-SBD-RH,	F940GOT-LBD-RH, F943GOT-LBD-RH
	F940WGOT	F940WGOT-TWD			

■ Communication board/communication module

Abbreviations and generic terms		Description			
Communi-cation board	Bus connection board	A9GT-QBUSS, A9GT-50WQBUSS,	A9GT-QBUS2S, A9GT-50WBUSS	A9GT-BUSS,	A9GT-BUS2S,
	Serial communication board	A9GT-RS4, A9GT-50WRS4	A9GT-RS2,	A9GT-RS2T,	A9GT-50WRS2,
Communi-cation module	Bus connection module	A9GT-QBUS2SU, A7GT-BUS2S	A9GT-BUSSU,	A9GT-BUS2SU,	A7GT-BUSS,
	Data link module	A7GT-J71AP23,	A7GT-J71AR23,	A7GT-J71AT23B	
	Network module	A9GT-QJ71LP23,	A9GT-QJ71BR13,	A7GT-J71LP23,	A7GT-J71BR13
	CC-Link communication module	A8GT-J61BT13,	A8GT-J61BT15		
	Ethernet communication module	A9GT-J71E71-T			

■ Option Module

Abbreviations and generic terms		Description
Option Module	External I/O module	A9GT-70KBF, A8GT-50KBF
	Printer interface module	A9GT-50PRF type
	Memory card interface module	A1SD59J-MIF
	Video/RGB mixed input interface module	A9GT-80V4R1
	Video input interface module	A9GT-80V4
	RGB input interface module	A9GT-80R1

■ Option

Abbreviations and generic terms		Description			
Option	Backlight	A9GT-80LTT, A9GT-50LT,	A9GT-70LTTB, F9GT-40LTS,	A9GT-70LTT, F9GT-30LTB	A9GT-70LTS,
	Debug stand	A9GT-80STAND,	A9GT-70STAND,	A9GT-50WSTAND,	A9GT-50STAND
	Memory board	A9GT-FNB, A9GT-FNB8M, F9GT-40FMB,	A9GT-FNB1M, A9GT-QFNB, F9GT-40UMB	A9GT-FNB2M, A9GT-QFNB4M,	A9GT-FNB4M, A9GT-QFNB8M,
	Ten-key panel	A8GT-TK			
	Bus connector conversion box	A7GT-CNB			
	Bus distance connector box	A9GT-QCNB			
	Protective sheet	A9GT-80PSC, A9GT-50PSC,	A9GT-70PSC, F9WGT-40PSC,	A9GT-60PSC, F9GT-40PSC,	A9GT-50WPSC, F9GT-30PSC
	Attachment	A77GT-96ATT,	A85GT-95ATT,	A87GT-96ATT,	A87GT-97ATT
	PC card (memory card)	Abbreviations of PC card with JEIDA Ver4.2 (PCMCIA Ver2.1)			
	Flash PC card	A9GTMEM-10MF,	A9GTMEM-20MF,	A9GTMEM-40MF	
	Compact Flash PC card	Abbreviation of Compact FlashTM (Compact FlashTM produced by Sun Disk.)			
	Connector conversion box	F9GT-HCNB			

■ Software

Abbreviations and generic terms		Description
Software	GT Works2 Version1	Abbreviation of SW1D5C-GTWK2-E
	GT Designer2 Version1	Abbreviation of SW1D5C-GTD2-E
	GT Designer2	Abbreviation of GOT900 series graphic software-GT Designer2
	GT Simulator2	Abbreviation of GOT900 series screen simulator-GT Simulator2
	GT SoftGOT2	Abbreviation of monitoring software-GT SoftGOT2
	GT Converter	Abbreviation of GOT900 series data conversion software-GT Converter
	GX Developer	Abbreviation of SW□D5C-GPPW(-V)/SW□D5F-GPPW(-V) type software package
	GX Simulator	Abbreviation of SW□D5C-LLT(-V) type download test tool function software package (SW5D5C-LLT(-V) or later)

■ License (for GT SoftGOT, GT SoftGOT2)

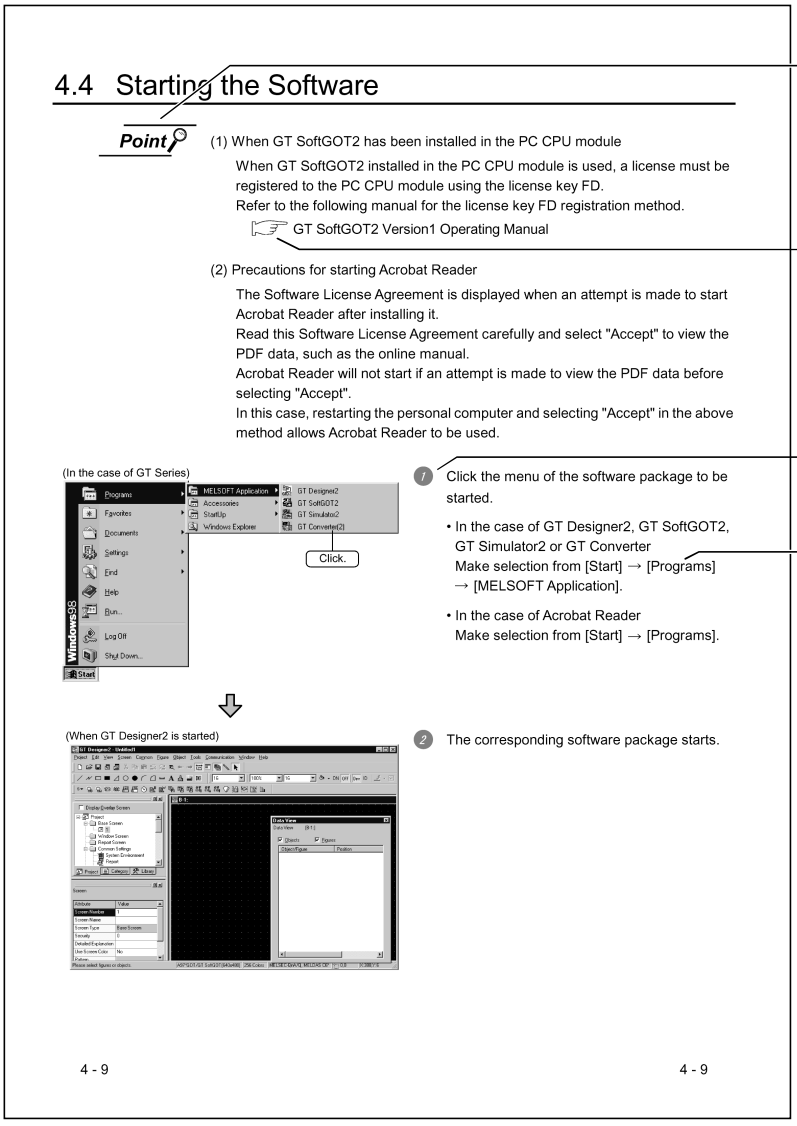
Abbreviations and generic terms	Description
License	A9GTSOFT-LKEY-P (for DOS/VPC)
License FD	SW5D5F-SGLKEY-J (for PC CPU module)

■ CPU

Abbreviations and generic terms		Description			
QCPU	QCPU (Q Mode)	Q00JCPU,	Q00CPU,	Q01CPU,	Q02CPU,
		Q02HCPU,	Q06HCPU,	Q12HCPU,	Q25HCPU,
		Q12PHCPU,	Q25PHCPU		
	QCPU (A Mode)	Q02CPU-A,	Q02HCPU-A,	Q06HCPU-A	
QnACPU	QnACPU type	Q2ACPU,	Q2ACPU-S1,	Q2AHCPU,	Q2AHCPU-S1,
		Q3ACPU,	Q4ACPU,	Q4ARCPU	
	QnASCPU type	Q2ASCPU,	Q2ASCPU-S1,	Q2ASHCPU,	Q2ASHCPU-S1
ACPU	AnUCPU	A2UCPU,	A2UCPU-S1,	A3UCPU,	A4UCPU
	AnACPU	A2ACPU,	A2ACPU-S1,	A3ACPU	
	AnNCPU	A1NCPU,	A2NCPU,	A2NCPU-S1,	A3NCPU
	AnCPU type	AnUCPU,	AnACPU,	AnNCPU	
	AnUS(H)CPU	A2USCPU,	A2USCPU-S1,	A2USHCPU-S1,	A3USCPU
	AnS(H)CPU	A1SCPU,	A1SCPUC24-R2,	A2SCPU,	A2SCPU-S1,
		A1SHCPU,	A2SHCPU,	A2SHCPU-S1	
	A1SJ(H)CPU	A1SJCPU,	A1SJCPU-S3,	A1SJHCPU	
	AnSCPU type	AnUS(H)CPU,	AnS(H)CPU,	A1SJ(H)CPU	
	A1FXCPU	A1FXCPU			
		A0J2HCPU,	A2CCPU,	A2CCPUC24,	A2CJCPU
FXCPU		FX0 series,	FXON series,	FXOS series,	FX1 series,
		FX1N series,	FX1NC series,	FX1S series,	FX2 series,
		FX2C series,	FX2N series,	FX2NC series,	
		FX(2N)-10GM/20GM series			
Motion controller CPU	Motion controller CPU (A series)	A273UCPU,	A273UHCPU,	A273UHCPU-S3,	A373CPU,
		A373UCPU,	A373UCPU-S3,	A171SCPU,	A171SCPU-S3,
		A171SCPU-S3N,	A171SHCPU,	A171SHCPUN,	A172SHCPU,
		A172SHCPUN,	A173UHCPU,	A173UHCPU-S1	
	Motion controller CPU (Q series)	Q172CPU,	Q173CPU,	Q172CPUN,	Q173CPUN
FA controller		LM610,	LM7600,	LM8000	
MELDAS C6/C64		FCA C6,	FCA C64		

How to Use This Manual

Specification of symbols used in this manual



4.4 Starting the Software

Point

(1) When GT SoftGOT2 has been installed in the PC CPU module

When GT SoftGOT2 installed in the PC CPU module is used, a license must be registered to the PC CPU module using the license key FD.
Refer to the following manual for the license key FD registration method.

GT SoftGOT2 Version1 Operating Manual

(2) Precautions for starting Acrobat Reader

The Software License Agreement is displayed when an attempt is made to start Acrobat Reader after installing it.
Read this Software License Agreement carefully and select "Accept" to view the PDF data, such as the online manual.
Acrobat Reader will not start if an attempt is made to view the PDF data before selecting "Accept".
In this case, restarting the personal computer and selecting "Accept" in the above method allows Acrobat Reader to be used.

(In the case of GT Series)

1 Click the menu of the software package to be started.

- In the case of GT Designer2, GT SoftGOT2, GT Simulator2 or GT Converter
  Make selection from [Start] → [Programs] → [MELSOFT Application].
- In the case of Acrobat Reader
  Make selection from [Start] → [Programs].

(When GT Designer2 is started)

2 The corresponding software package starts.

4 - 9 4 - 9

Point — Refers to information required for operation.

Hint! — Refers to information useful for operation.

Remark — Refers to supplementary explanations

Shows the items including detailed explanation (manual and the chapter, section, item).

1 → 2 → 3 . . . .

Indicates the operation steps.

Brackets used for the menu and items differ.

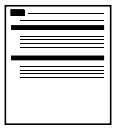
[ ] : Refers to menu in menu bar
Refers to dialog box item or GOT utility menu

: Refers to dialog box buttons or PC keyboard.

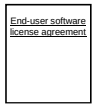
Product List

The following shows the product list of GT Works2 or GT Designer2.

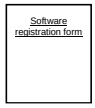
SW1D5C-GTWK2-E
or
SW1D5C-GTD2-E



About installation method of GT Works2/GT Designer2



End-user software license agreement



Software registration form

License agreement

NOTICES

- We don't guarantee the commercially-available Microsoft® Windows® Operating System-based software products that have been introduced in this manual.
- We hold the copyrights of this software package.
- No part of this manual may be transcribed or duplicated in any form without prior permission by Mitsubishi Electric Corporation.
- We have attempted to cover all the revisions of software and hardware, but this manual may not contain the latest revisions.
- The software of this product requires one license to be purchased per computer.
- We permit the user to use this software package (including this manual) based on the Software License Agreement.
- We are not liable for consequences or influences due to this software package (including this manual).
- The specifications of this software package and the descriptions in this manual may be altered in future without prior notice.

A - 24

1. OVERVIEW

This manual explains the system configuration, installation method and PDF manual viewing method of the GOT900 series drawing software package (GT Works2 Version1, GT Designer2 Version1).
In and after Chapter 7 of this manual, an example of creating simple screens using GT Designer2 will be explained.
For those who uses the GOT for the first time, it is recommended to operate the GOT and GT Designer2 actually in the procedures given in and after Chapter 7 to learn the operation method.

Remark About the data created in and after Chapter 7

The monitor data and sequence program created in and after Chapter 7 of this manual are packed with GT Designer2.
Use them as necessary for confirming the set data, etc.

1.1 When Conventional Software Is Used

GT Works2 Version1 and/or GT Designer2 Version1 may not be installed when the conventional GOT900 series software has been installed in the personal computer.
The following describes whether each software can be installed or not when the conventional software has been installed.

1 GT Designer

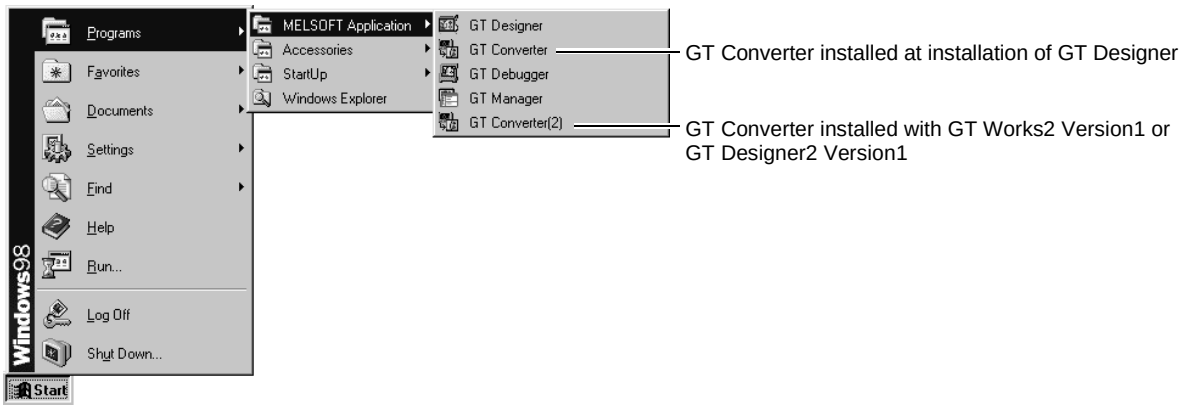
If GT Designer has been installed in the personal computer, GT Designer2 can be installed.

2 GT Simulator, GT SoftGOT

If GT Simulator or GT SoftGOT has been installed in the personal computer, GT Simulator2 or GT SoftGOT2 cannot be installed. Before installing GT Simulator2 or GT SoftGOT2, uninstall GT Simulator or GT SoftGOT.

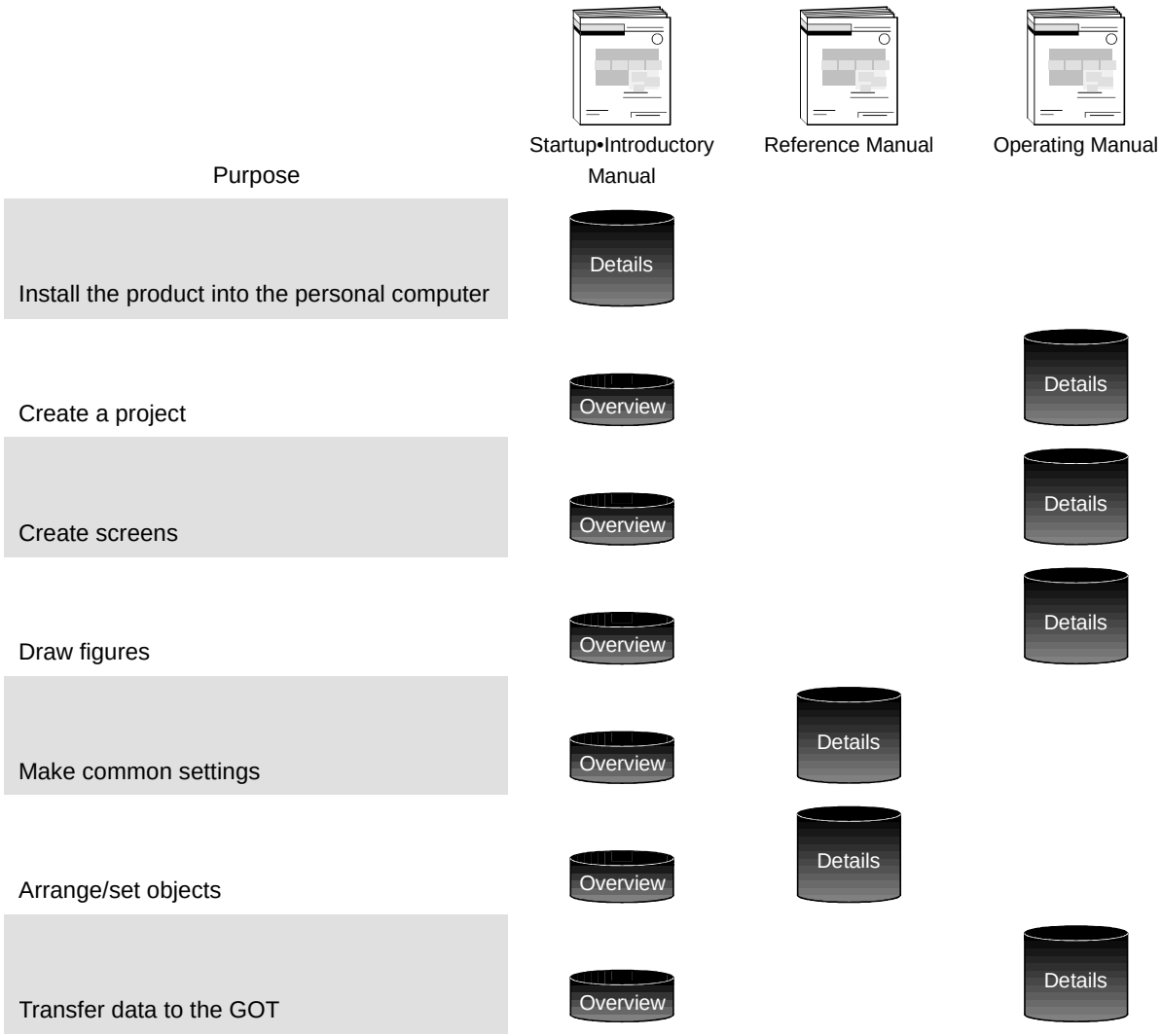
3 GT Converter

GT Works2 Version1 and GT Designer2 Version1 store latest GT Converter.
When using GT Converter, it is recommended to use GT Converter that is stored in GT Works2 Version1 or GT Designer2 Version1.
If GT Converter of GT Designer has been installed in the personal computer, GT Works2 Version1 or GT Designer2 Version1 can be installed.



1.2 About Manuals

Including this manual, there are three different manuals that are related to GT Designer2.
Refer to the corresponding manual according to the purpose of use.
The following manuals are stored in the product in a PDF format.



■ Startup•Introductory Manual

Describes the installation method of the product.
Also gives an example of creating simple screens and using them on the GOT.

■ Reference Manual

Describes the object, figure and screen specifications, object setting methods, etc.

■ Operating Manual

Describes the GT Designer2 screen configuration, screen customizing method, and project creation and data transfer methods.

1 - 2

2. SOFTWARE PACKAGE CONFIGURATION

This chapter explains the software and data stored in the CD-ROMs of GT Works2 Version1 and GT Designer2 Version1.

2.1 Software Types

GT Works2 Version1 and GT Designer2 Version1 store the following software programs.
The stored software programs differ between GT Works2 Version1 and GT Designer2 Version1.

○: Stored, —: Not stored.

Software Name		Description	GT Works2	GT Designer2
GOT900 series software	 GT Designer2	Software used to create screens for the GOT900 series.	○	○
	 GT SoftGOT2	Software that allows a personal computer to be used as the GOT. The license key or license key FD is required to use this software. (Without the license key or license key FD, this software operates for about 10 minutes.) When the license key or license key FD is necessary, contact the local Mitsubishi service center or representative.	○	○
	 GT Simulator2	Software that allows the GOT operation to be simulated on a personal computer connected with GX Simulator or PLC CPU.	○	—
	GT Converter	Software that converts the monitor screen data for GOT800 series or Digital's package data into a GT designer format file.	○	○
PDF viewing software	 Adobe Acrobat Reader	Adobe Acrobat Reader (hereafter abbreviated to Acrobat Reader) is Adobe System's product. Acrobat Reader is the software that enables PDF data to be viewed. Since the online manual is written as PDF data, use this software to view.	○	○

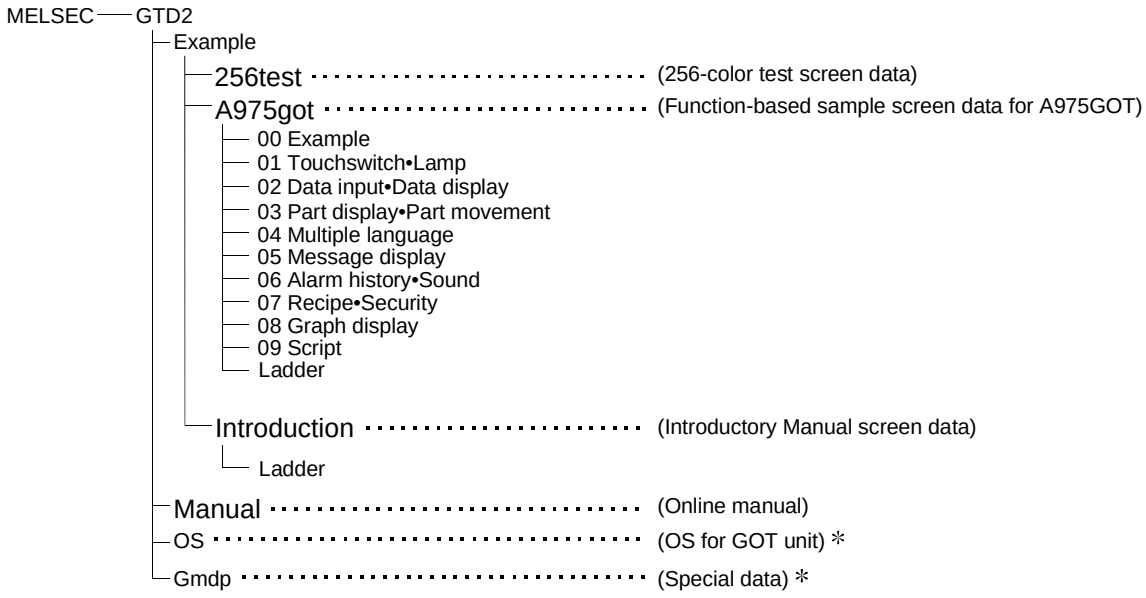
2 - 1

2.2 Other Supplied Data

GT Works2 Version1 and GT Designer2 Version1 store the following data, in addition to the software given in Section 2.1.
The following data are loaded into the personal computer at installation of GT Designer2.

Data Name	Description
Online manual	Online manual related to the GOT900 series. Contained as PDF data.
Function-by-function sample data for A975GOT	Function-by-function sample screen data for the A975GOT. To operate a sample screen actually, write the sequence program contained in the "Ladder" folder to the PLC CPU using GX Developer, etc.
Sample data for F940GOT/F940WGOT	Sample screen data for the F940GOT/F940WGOT.
Sample data for microcomputer connection	Sample screen data and sample program (C language) for microcomputer connection.
Introductory Manual data	Screen data explained in and after Chapter 7 of this manual. To operate screen data actually, write the sequence program contained in the "Ladder" folder to the PLC CPU using GX Developer, etc.
256-color test data	Screen data where the color patterns of 256 colors have been set and with which the display of 256 colors can be confirmed.

After GT Designer2 is installed, data are stored into the following folders.



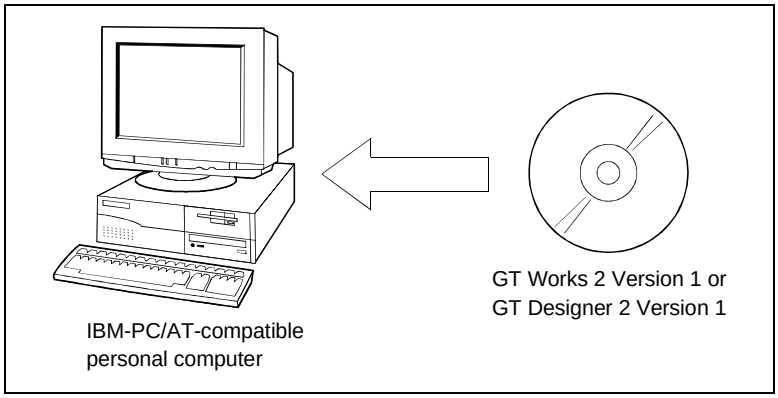
*Do not delete the folders and do not tamper with the data in the folders.

2 - 2

3. SYSTEM CONFIGURATION

3.1 System Configuration

The system configuration is shown below.



3.2 Operating Environment

The following tables indicate the operating environment of the GOT900 series software stored in GT Works2 Version1 and GT Designer2 Version1.

1 GT Designer2

The following table indicates the operating environment of GT Designer2.

Item		Description
Personal computer		Personal computer on which Windows® operates.
OS		Microsoft® Windows® 98 operating system Microsoft® Windows® Millennium Edition operating system ∗1 Microsoft® WindowsNT® Workstation4.0 operating system ∗1 Microsoft® Windows® 2000 Professional operating system ∗1 Microsoft® Windows® XP Professional operating system ∗1∗2 Microsoft® Windows® XP Home Edition operating system ∗1∗2
Computer main unit		Refer to "Used Operating System and performance required for personal computer main unit" on the next page.
	CPU	
	Required memory	
Free hard disk space		At installation: 250M bytes or more At execution : 50M bytes or more
Disk drive		CD-ROM disk drive
Display color		256 colors
Display		Resolution 800 × 600 dots or more
Others		Internet Explorer Ver. 5.0 or later must be installed.

∗1 The authority of the administrator is required when installing GT Designer2 into WindowsNT® Workstation4.0, Windows® 2000 Professional, Windows® XP Professional or Windows® XP Home Edition; when using GT Designer2 on Windows® XP Professional or Windows® XP Home Edition.

∗2 "Compatibility mode", "user's easy switching" and "desktop theme (font) change" are not supported.

3 - 1

Basic software used and PC performance required

Basic software	Required PC performance	
	CPU	Required memory
Microsoft® Windows® 98 operating system	Pentium® 200 MHz or larger	64 MB or larger
Microsoft® Windows® Me operating system	Pentium® 200 MHz or larger	64 MB or larger
Microsoft® WindowsNT® Workstation4.0 operating system	Pentium® 200 MHz or larger	64 MB or larger
Microsoft® Windows® 2000 Professional operating system	Pentium® 200 MHz or larger	64 MB or larger
Microsoft® Windows® XP Professional operating system Microsoft® Windows® XP Home Edition operating system	Pentium II® 300 MHz or larger	128 MB or larger

3 - 2

2 GT Simulator2

The following table indicates the operating environment of GT Simulator2.

Item		Description
Personal computer		Personal computer on which Windows® operates.
OS		Microsoft® Windows® 98 operating system Microsoft® Windows® Millennium Edition operating system Microsoft® WindowsNT® Workstation4.0 operating system ∗2∗5 Microsoft® Windows® 2000 Professional operating system∗5 Microsoft® Windows® XP Professional operating system ∗4 ∗5 Microsoft® Windows® XP Home Edision operating system ∗4 ∗5
Computer main unit		Refer to "Used Operating System and performance required for personal computer main unit" on the next page.
	CPU	
	Required memory	
Free hard disk space ∗1		At installation: 200M bytes or more At operation : 50M bytes or more
Disk drive		CD-ROM disk drive
Display color		256 colors
Display		Resolution 800 × 600 dots or more
Required software		Required GT Designer or GT Designer2 ∗3 When GX Simulator is used For QCPU (A mode), ACPU or motion controller CPU simulation : SW5D5C-LLT Version A or later For QCPU (Q mode) (except Q00J/Q00/Q01CPU), QnACPU or FXCPU simulation : SW5D5C-LLT Version E or later For Q00J/Q00/Q01CPU simulation : SW6D5C-LLT Version A or later For Q12PHCPU or Q25PHCPU simulation : SW6D5C-LLT Version L or later
Valid OS		Japanese, English∗6

∗1 When GT Simulator2 is used with GX Developer or GX Simulator, more free space is necessary.
For the free space necessary for use of GX Developer or GX Simulator, refer to the GX Developer or GX Simulator Operating Manual (Startup).

∗2 When using GT Simulator2, use the personal computer where Windows NT® Workstation 4.0 of Service Pack 3 or later has been installed.

∗3 Use GT Designer2 contained in GT Works2 that contains GT Simulator2.

∗4 "Compatibility mode", "user's easy switching" and "desktop theme (font) change" are not supported.

∗5 The authority of the administrator is required when installing GT Simulator2 into WindowsNT® Workstation4.0, Windows® 2000 Professional, Windows® XP Professional or Windows® XP Home Edition; when using GT Simulator2 on Windows® XP Professional or Windows® XP Home Edition.

∗6 Characters in the dialog box may not be properly displayed when OS other than the above is used.

Basic software used and PC performance required

Basic software	Required PC performance		
	CPU	Required memory	
		GT Simulator2 only	GT Simulator2 + GX Developer + GX Simulator
Microsoft® Windows® 98 operating system	Pentium® 200MHz or more (Pentium II® 300MHz or more recommended)	32MB or more (96MB or more recommended)	64MB or more (96MB or more recommended)
Microsoft® Windows® Me operating system	Pentium® 200MHz or more (Pentium II® 300MHz or more recommended)	32MB or more (96MB or more recommended)	64MB or more (96MB or more recommended)
Microsoft® WindowsNT® Workstation4.0 operating system	Pentium® 200MHz or more (Pentium II® 300MHz or more recommended)	32MB or more (96MB or more recommended)	64MB or more (96MB or more recommended)
Microsoft® Windows® 2000 Professional operating system	Pentium® 200MHz or more (Pentium II® 300MHz or more recommended)	64MB or more (96MB or more recommended)	64MB or more (96MB or more recommended)
Microsoft® Windows® XP Professional operating system Microsoft® Windows® XP Home Edision operating system	Pentium II® 300MHz or more (Pentium II® 450MHz or more recommended)	128MB or more (192MB or more recommended)	128MB or more (192MB or more recommended)

3 - 4

3 GT SoftGOT2

The following table indicates the operating environment of GT SoftGOT2.

Item	When IBM-PC/AT-compatible Personal Computer Is Used	When PC CPU Module Is Used
Personal computer	Personal computer on which Windows® operates.	MELSEC-Q series compatible PC CPU module manufactured by CONTEC
OS	Microsoft® Windows® 98 operating system Microsoft® Windows® Millennium Edition operating system Microsoft® WindowsNT® Workstation4.0 operating system ∗1∗5 Microsoft® Windows® 2000 Professional operating system ∗5 Microsoft® Windows® XP Professional operating system ∗4∗5 Microsoft® Windows® XP Home Edition operating system ∗4∗5	WindowsNT® Workstation 4.0 ∗1, Windows® 2000
CPU	Refer to "Used Operating System and performance required for personal computer main unit" on the next page.	
Required memory		
Required memory	64M bytes or more (96M bytes or more recommended) (96M bytes or more (128M bytes or more recommended) when GT SoftGOT2 and GX Developer are used simultaneously or more than one GT SoftGOT2 are started.)	
Free hard disk space	At installation: 200M bytes or more At operation : 100M bytes or more ∗3	
Disk drive	CD-ROM disk drive	3.5 inch (1.44MB) floppy disk drive CD-ROM disk drive
Display color	256 colors	
Display	Resolution 800 × 600 dots or more (640 × 480 dots or more when full screen display function is used)	
Required software	GT Designer Version 5 Edition D or later or GT Designer2	
Requirement license key/license key FD	A9GTSOFT-LKEY-P ∗2	SW5D5F-SGLKEY-J
Valid OS	Japanese, English ∗6	

∗1 Use the personal computer where Windows NT® Workstation 4.0 of Service Pack 3 or later has been installed.

∗2 To use the A9GTSOFT-LKEY-P, a parallel port (Centronics/printer connector) is required for the IBM-PC/AT-compatible personal computer.

∗3 When more than one GT SoftGOT2 are started, "number of started GT SoftGOT2's × 100" M bytes are required.
When the monitor screen data size (space) is large (30M bytes or more as a guideline), 200M bytes or more may be required.

∗4 "Compatibility mode", "user's easy switching" and "desktop theme (font) change" are not supported.

∗5 The authority of the administrator is required when installing GT SoftGOT2 into WindowsNT® Workstation4.0, Windows® 2000 Professional, Windows® XP Professional or Windows® XP Home Edition; when using GT SoftGOT2 on Windows® XP Professional or Windows® XP Home Edition.

∗6 Characters in the dialog box may not be properly displayed when OS other than the above is used.

3 - 5

Basic software used and PC performance required

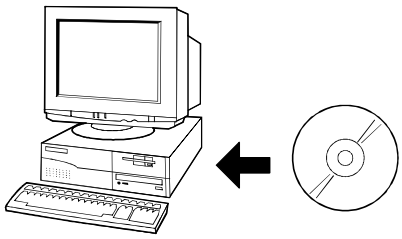
Basic software	Required PC performance		
	CPU	Required memory	
		GT SoftGOT2 only	When GX Developer is used with GT SoftGOT2 or when multiple GT SoftGOT2's are started
Microsoft® Windows® 98 operating system	Pentium® 200MHz or more (Pentium II® 300MHz or more recommended)	64MB or more (96MB or more recommended)	96MB or more (128MB or more recommended)
Microsoft® Windows® Me operating system	Pentium® 200MHz or more (Pentium II® 300MHz or more recommended)	64MB or more (96MB or more recommended)	96MB or more (128MB or more recommended)
Microsoft® WindowsNT® Workstation4.0 operating system	Pentium® 200MHz or more (Pentium II® 300MHz or more recommended)	64MB or more (96MB or more recommended)	96MB or more (128MB or more recommended)
Microsoft® Windows® 2000 Professional operating system	Pentium® 200MHz or more (Pentium II® 300MHz or more recommended)	64MB or more (96MB or more recommended)	96MB or more (128MB or more recommended)
Microsoft® Windows® XP Professional operating system Microsoft® Windows® XP Home Edition operating system	Pentium II® 300MHz or more (Pentium II® 450MHz or more recommended)	128MB or more (192MB or more recommended)	128MB or more (192MB or more recommended)

3 - 6

4. INSTALLATION AND UNINSTALLATION

This chapter explains the installation and uninstallation of the software programs stored in GT Works2/GT Designer2.

4.1 Starting the Menu Screen



1 Insert the CD-ROM into the CD-ROM drive of the personal computer where Windows® has started.
The menu screen will soon start.

2 As the menu screen of GT Works2/GT Designer2 starts, install the corresponding software or view the PDF manual.

As this menu screen is displayed after completion of one process, another process can be executed without a break.
When it is desired to end the menu screen, click the Exit button.

Point

If the menu screen does not start

Start the menu screen in the following procedure if it does not start automatically when the CD-ROM of GT Works2/GT Designer2 is inserted into the CD-ROM drive.

(1) Using Device Manager of Windows® , make setting to start the CD-ROM drive automatically.

(2) Start Explorer and double-click GTWK2-J.exe or GTD2-J.exe. of the CD-ROM drive.

4 - 1

4.2 Installing the Software

Point

Precautions for installation

(1) Before starting installation, close all other applications that being run on Windows® .

(2) When using Windows NT® Workstation 4.0, Windows® 2000, Windows® XP Professional or Windows® XP Home Edition, log on as a user who has the attributes of the administrator (for computer management).

(3) During installation, do not install any other software.

(4) During installation, do not remove the CD-ROM from the CD-ROM drive.

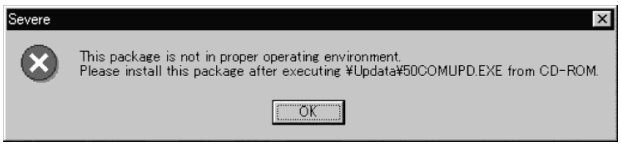
4.2.1 Installing GT Designer2, GT Simulator2 and/or GT SoftGOT2

Point

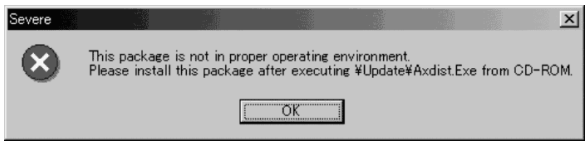
Screens displayed midway during installation

To prepare for installation, any of the following screens may be displayed midway during installation.
If any of the following screens is displayed, reinstall the product after execution of the specified exe file according to the instruction of the screen.
When the product has not been installed correctly, restart the computer once.

If the screen on the right is displayed, execute \Update\ 50COMUPD.exe of the CD-ROM.



If the screen on the right is displayed, execute \Update\ Jaaxdist.exe of the CD-ROM.



If the screen on the right is displayed, execute \EnvMEL\ Setup.exe of the CD-ROM.

4 - 2

1 Click the software to be installed.

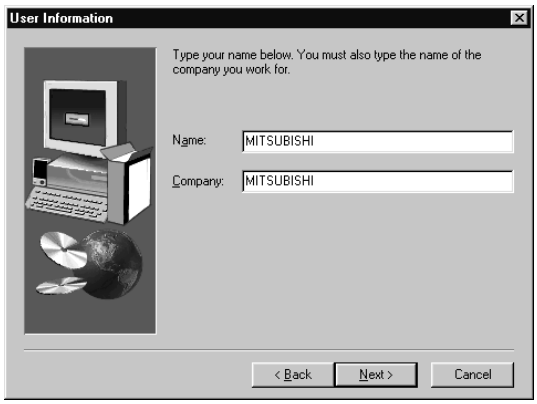
Only when GT SoftGOT2 is installed

2 When "GT SoftGOT2 install" has been selected, the screen on the left is displayed.

"GT SoftGOT2 install"
GT SoftGOT2 will be installed.

"System Driver"
The system driver will be installed/uninstalled.
When the PC CPU module is used, the system driver need not be installed.

∗Unless the system driver is installed, GT SoftGOT2 will not recognize the license key if the license key is mounted to the personal computer.

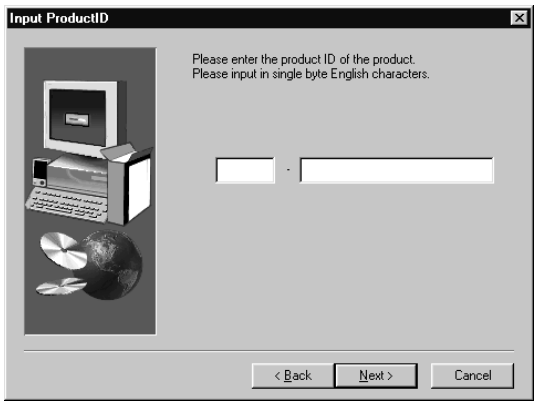


3 Input you name and any organization name, and click the Next button.
As the confirmation dialog box is displayed, perform operation according to the message.

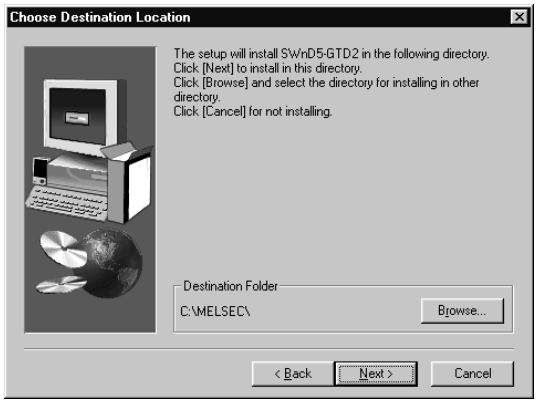
(To next page)

4 - 3

(From previous page)



4 Input the product ID of the product and click the Next button.
The product ID is indicated in the software registration form packed with the product.



5 Specify the installation destination folder.
The installation destination folder defaults to "C:\MELSEC".

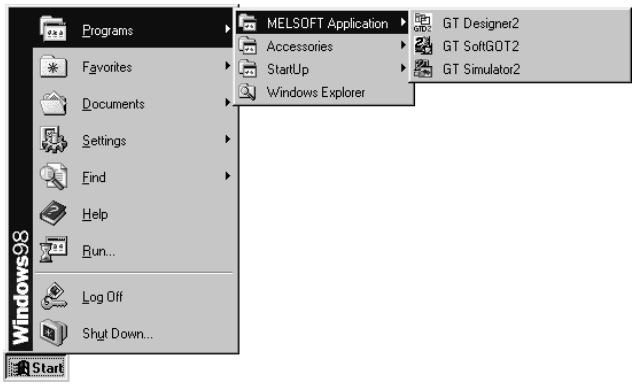
When the default is acceptable, click the Next button.
To change the default, click the Browse button and specify a new drive and folder.

6 Installation starts.
When installation is completed, the screen on the left is displayed. Click the OK button.

7 If the screen on the left is displayed, Windows® must be restarted.

4 - 4

When GT Designer2, GT SoftGOT2 and GT Simulator2 are installed, icons are registered as shown below.

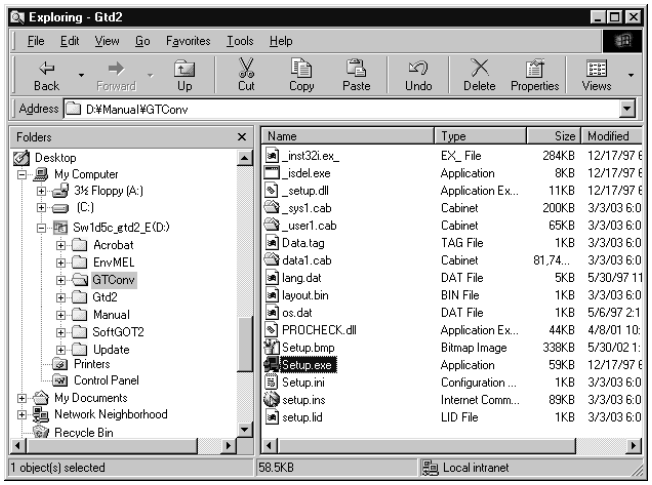


4.2.2 Installing GT Converter

Point Screens displayed midway during installation

Midway during installation, any of the screens shown in Section 4.2.1 may be displayed.

Section 4.2.1 Installing GT Designer2, GT Simulator2 and/or GT SoftGOT2

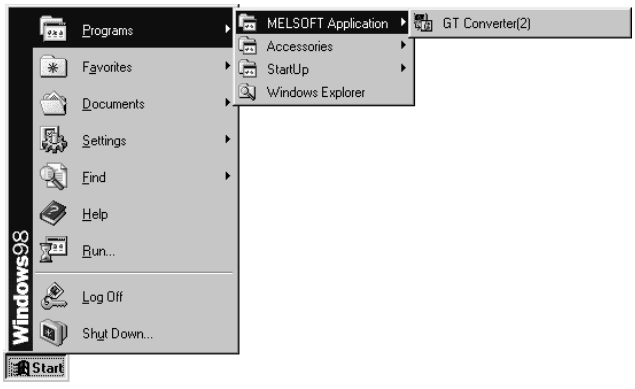


1 Start Explorer of Windows® and click the drive where the disk has been inserted. Double-click Setup.exe in the GTconv folder.

For the steps hereafter, refer to the following.

3 and later in Section 4.2.1

When GT Converter is installed, an icon is registered as shown below.



4 - 5

4.2.3 Installing Acrobat Reader

Install Acrobat Reader to view the online manual.

1. Click "Acrobat Reader install" of Setup.
2. Perform installation operation according to the instructions of the Acrobat Reader installer.
3. When installation is completed, the screen on the left is displayed. Click the OK button.

4 - 6

4.3 Uninstalling the Software

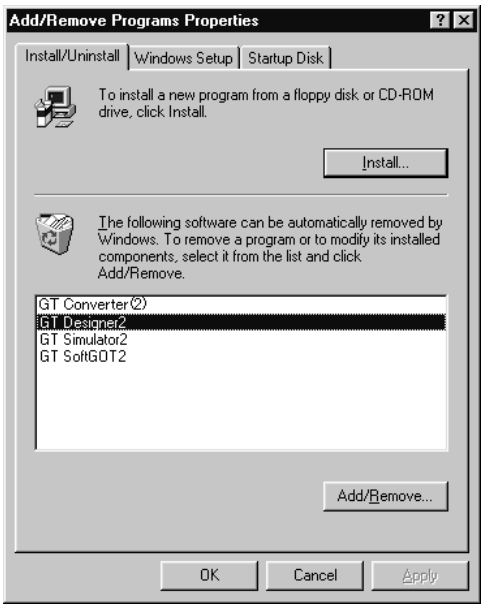
Point

Precautions for uninstallation

(1) Before starting uninstallation, always close the corresponding software package.

(2) When using Windows NT® Workstation 4.0 or Windows® 2000, log on as a user who has the attributes of the administrator (for computer management).

1 Double-click the Add/Delete Programs icon in Control Panel.



2 Select the software to be uninstalled.

After selection, click the Add/Remove button.

(To next page)

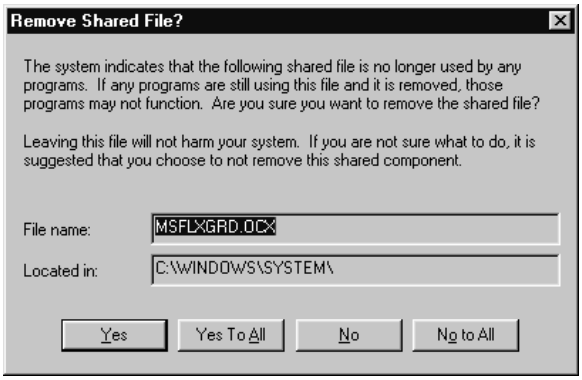
4 - 7

(From previous page)

3 Confirm the software to be deleted.

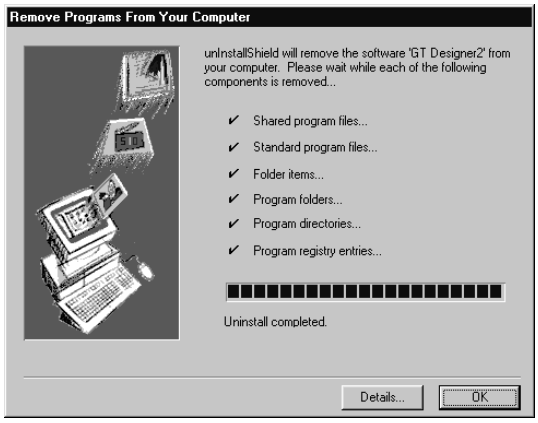
Click the [Yes] button to start uninstallation.
Click the [No] button to return to the previous screen without executing uninstallation.

∗Components indicate the installed icon and files.



4 When the screen as on the left (the file name and location display may be different) is displayed, click the [No to All] button.

∗When the [Yes] or [Yes to All] button is clicked, the shared file of MELSOFT may be deleted and the other software packages may not operate.



5 When uninstallation is completed, the screen on the left is displayed. Click the [OK] button.

4 - 8

4.4 Starting the Software

Point

(1) When GT SoftGOT2 has been installed in the PC CPU module

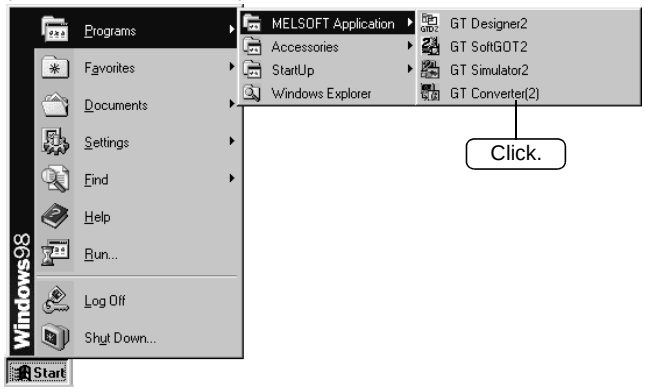
When GT SoftGOT2 installed in the PC CPU module is used, a license must be registered to the PC CPU module using the license key FD.
Refer to the following manual for the license key FD registration method.

☞ GT SoftGOT2 Version1 Operating Manual

(2) Precautions for starting Acrobat Reader

The Software License Agreement is displayed when an attempt is made to start Acrobat Reader after installing it.
Read this Software License Agreement carefully and select "Accept" to view the PDF data, such as the online manual.
Acrobat Reader will not start if an attempt is made to view the PDF data before selecting "Accept".
In this case, restarting the personal computer and selecting "Accept" in the above method allows Acrobat Reader to be used.

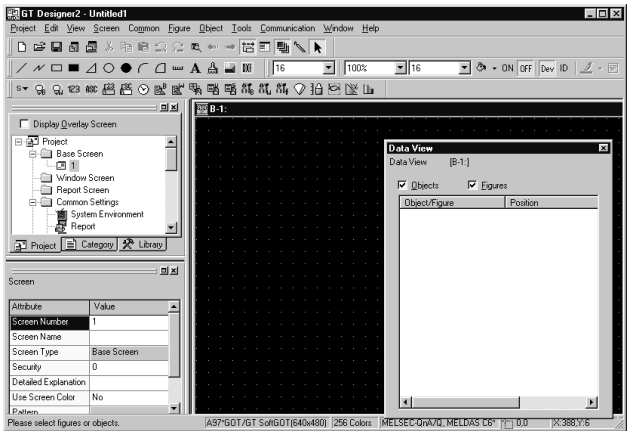
(In the case of GT Series)



1 Click the menu of the software package to be started.

- In the case of GT Designer2, GT SoftGOT2, GT Simulator2 or GT Converter
  Make selection from [Start] → [Programs] → [MELSOFT Application].
- In the case of Acrobat Reader
  Make selection from [Start] → [Programs].

(When GT Designer2 is started)



2 The corresponding software package starts.

4 - 9

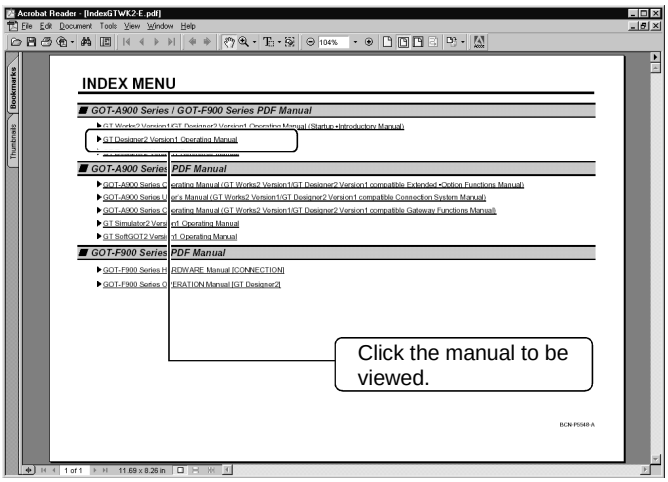
5. HOW TO USE THE ONLINE MANUAL

The online manual is contained in the CD-ROM of the product in the form of PDF data.
To view the PDF data, Acrobat Reader must have been installed in the personal computer.
When Acrobat Reader has not been installed in the personal computer, refer to the following and install Acrobat Reader.

Section 4.2.3 Installing Acrobat Reader

The online manual can be viewed in the following procedure.

1 Click PDF Manual on the menu screen.

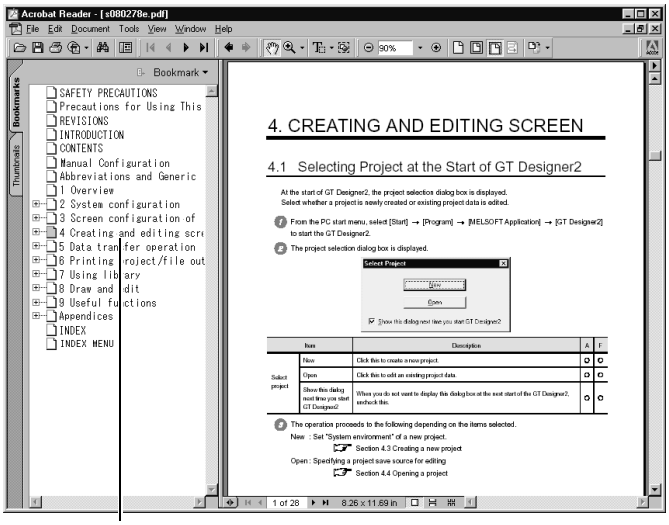


2 As the INDEX MENU screen is displayed, click the manual to be viewed.

(To next page)

5 - 1

(From previous page)



Clicking the index item switches the manual display screen.
Click "INDEX_MENU" to return to the INDEX_MENU screen (manual selection screen).

3 The selected manual is displayed.

5

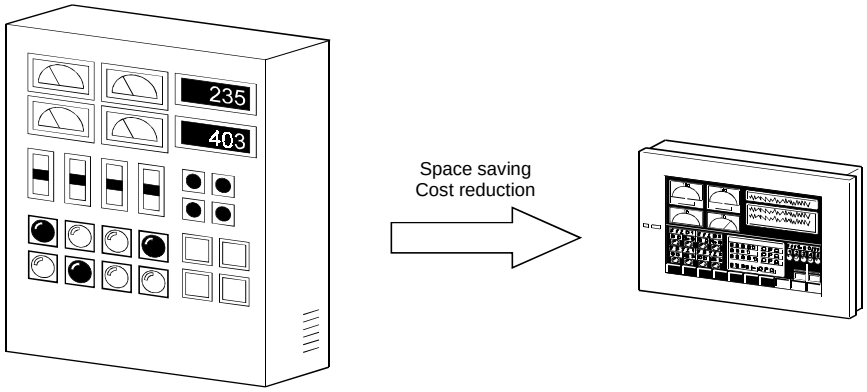
5 - 2

6. WHAT IS THE GOT?

6.1 About the GOT

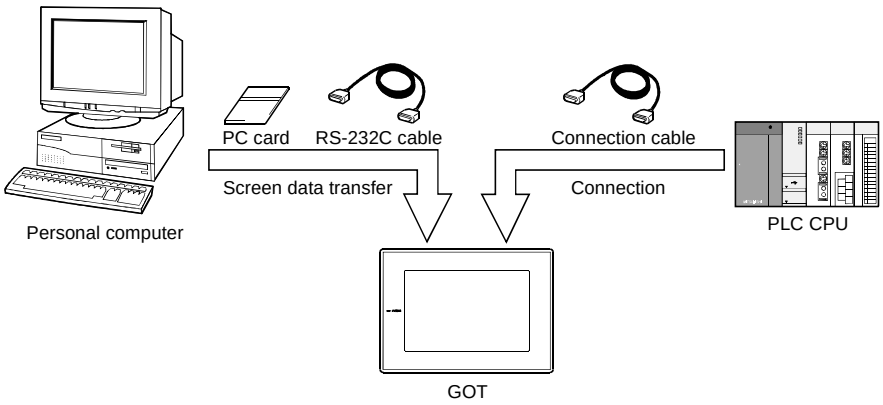
1 What is the GOT?

The GOT (Graphic Operation Terminal Unit) can be used as an electronic operation panel on which functions such as switch operation, lamp display, data display, message display can be operated on the monitor screen, which had been conventionally implemented with a control box.



2 About monitor screen data to be displayed on GOT

Create the monitor screen data, which will be displayed on the GOT, using the dedicated software (GT Designer2) on the personal computer.
On GT Designer2, paste display frame figures called objects, such as switch figures, lamp figures and numerical display, to create a screen, and set operation functions to the pasted objects with the device memory (bit, word) of the PLC CPU to execute the functions of the GOT.
Transfer the created monitor screen data to the GOT via an RS-232C cable or PC card (memory card).

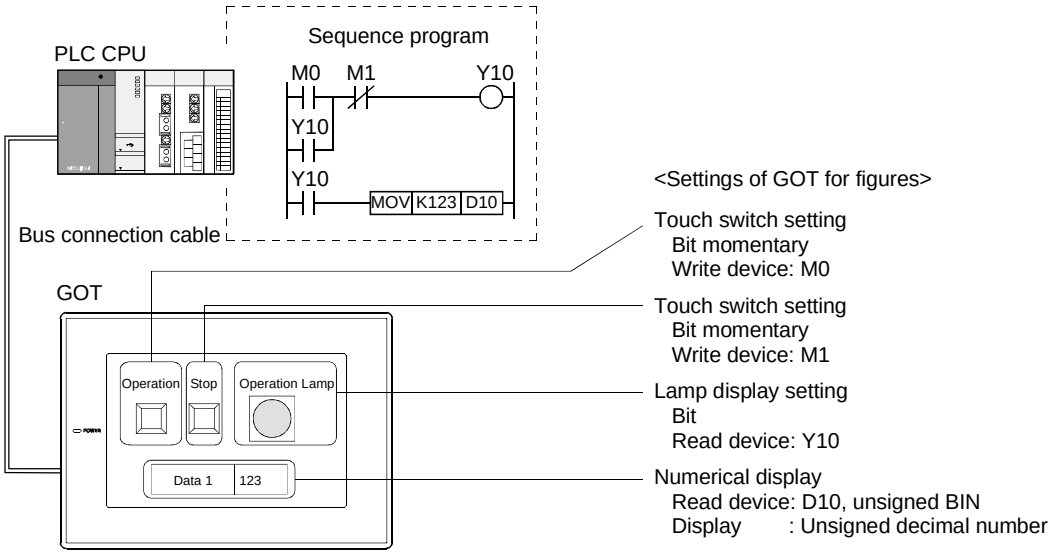


6 - 1

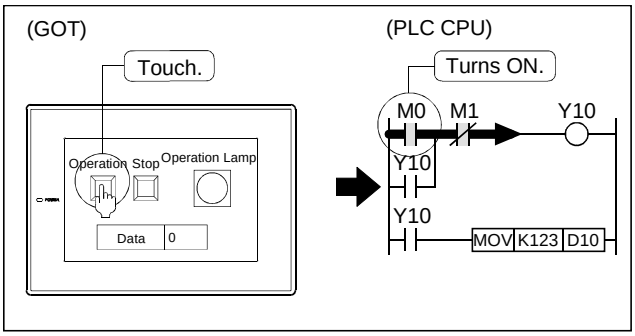
6.2 About GOT Operation

This section explains briefly what operation the GOT will perform when it is connected with the PLC CPU.

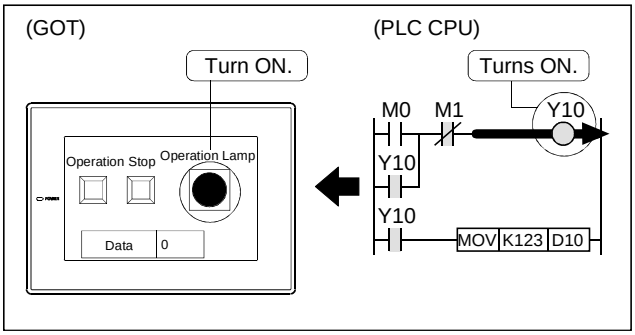
1 System example



2 Operation explanation



1 While the touch switch "Operation" of the GOT is being touched, the bit device "M0" is ON.



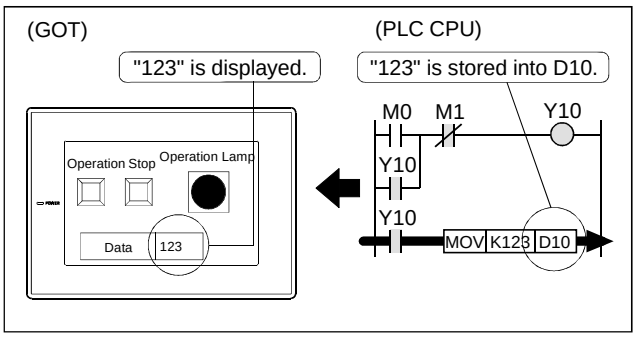
2 When the bit device "M0" turns ON, the bit device "Y10" turns ON.

An ON figure is also displayed in the lamp of the GOT where the monitor device has been set to the bit device "Y10".

(To next page)

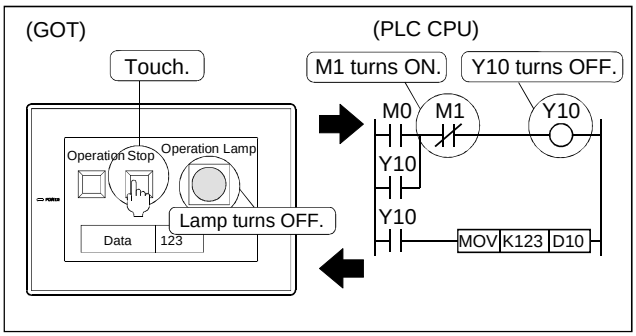
6 - 2

(From previous page)



3 As the bit device "M0" is ON, "123" is stored into the word device "D10".

Also, "123" is displayed in the numerical display of the GOT where the monitor device has been set to the bit device "D10".



4 While the touch switch "Stop" of the GOT is being touched, the bit device "M1" of the PLC CPU is ON.

Since the OFF condition of the bit device "Y10" of the PLC CPU is met, the lamp of the GOT turns OFF.

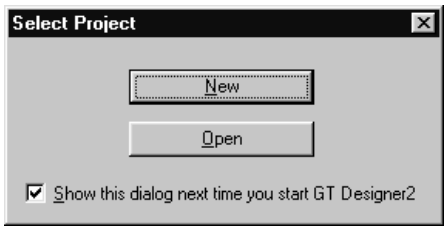
6 - 3

7. CREATING THE MONITOR DATA

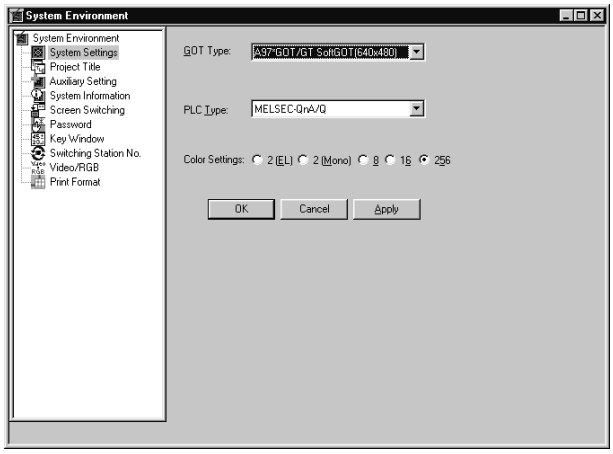
This and latter chapters explain how to create screens on GT Designer2 and operate them on the GOT. For those who will use the GOT for the first time or who want to know the specific operation examples of GT Designer2, it is recommended to refer to this and latter chapters and use the GOT and GT Designer2.

7.1 Setting before Screen Creation

Before creating a screen, set the GOT to be used, the type of the PLC CPU, and the title of the screen.



1 Starting GT Designer2 displays the screen on the left.
As a new screen will be created this time, click the New button.



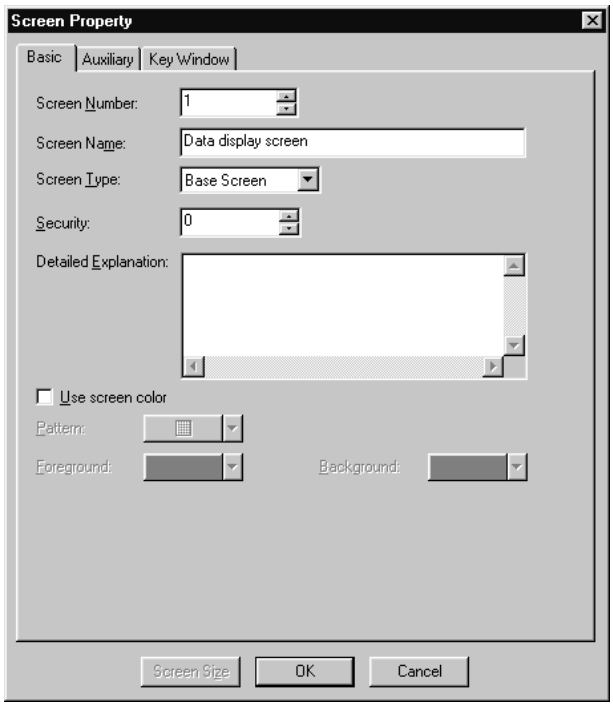
2 As the screen on the left (System Environment screen) is displayed, select the type of the GOT to be used and the type of the PLC (PLC Type).
After making selection, click the OK button.

Set data
GOT Type : A97＊GOT/GT SoftGOT(640×480)
PLC Type : MELSEC-QnA/Q

(To next page)

7 - 1

(From previous page)



3 As the Screen Property dialog box is displayed, input the screen title.

4 Click the OK button to create Base Screen 1.
The screen will be created specifically hereafter.

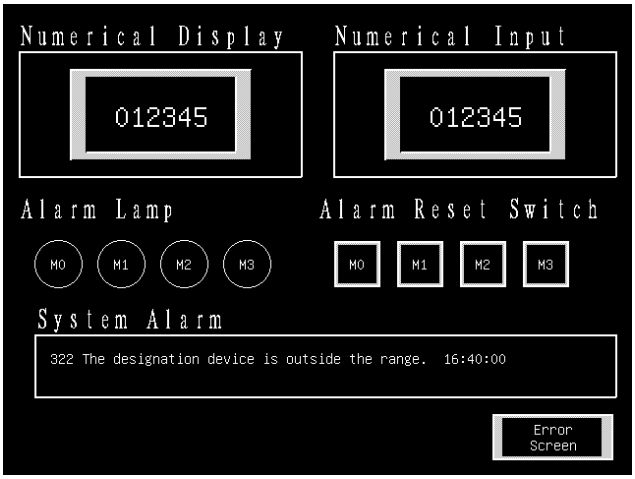
Set data
Screen Name: Data Display Screen

7 - 2

7.2 Creating Screens

After making preparations for screen creation, create screens actually.
In this manual, the following two screens will be created.

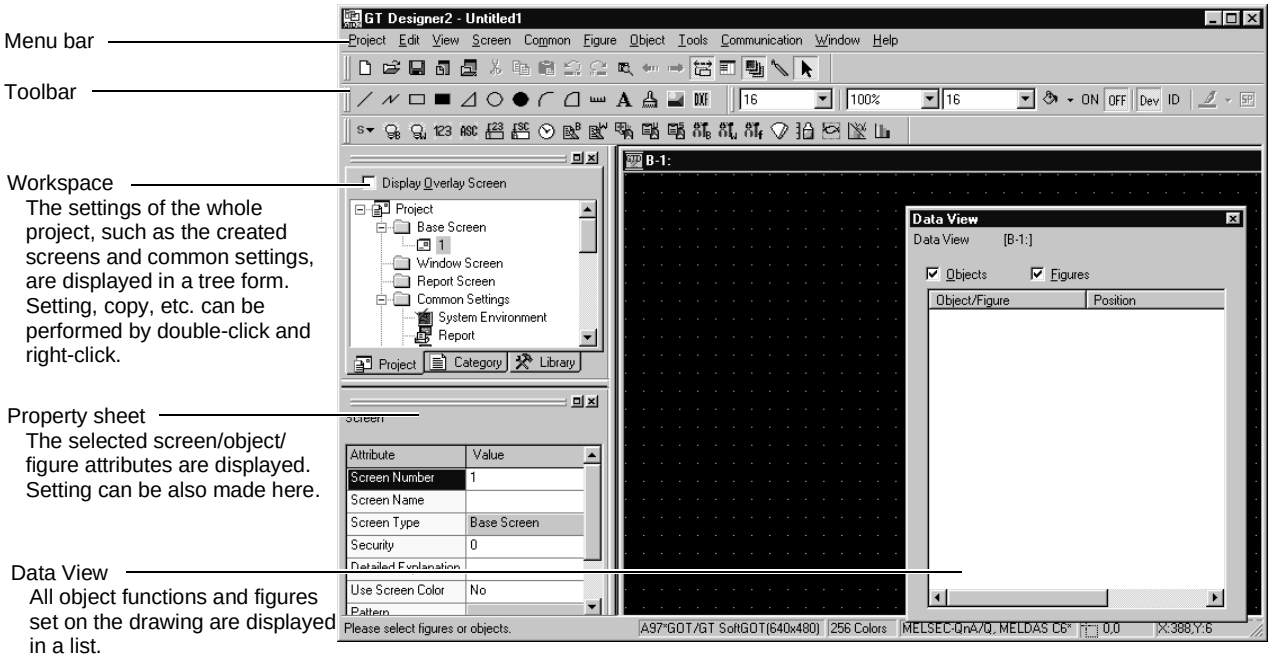
Base screen 1



Base screen 2

7.2.1 Screen configuration of GT Designer2

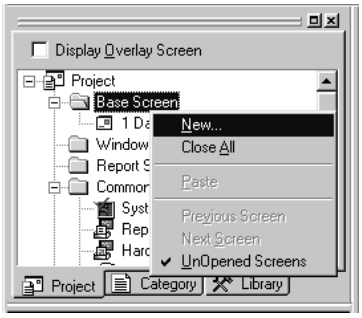
Before creating screens, the basic screen configuration of GT Designer2 will be explained.



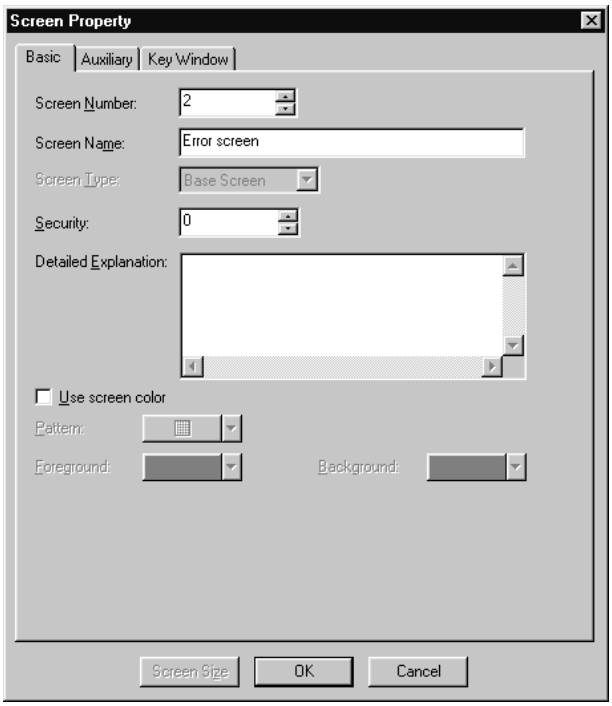
7 - 3

7.2.2 Creating the second screen

One screen has already been created in the previous section (Section 7.1 Setting before Screen Creation). Since two screens will be created in this manual, create the second screen first.



1 Right-click on the Base Screen on the tree in the project workspace and select [New].



2 As the Screen Property dialog box is displayed, input the screen title.

3 Click the OK button to create the second screen.

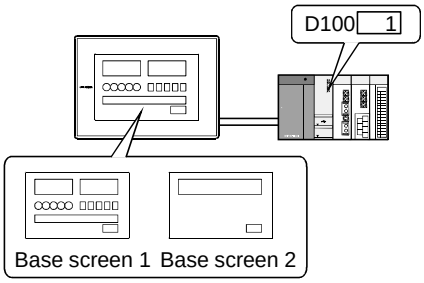
Set data
Screen Name: Error screen

7.2.3 Setting the screen switching device

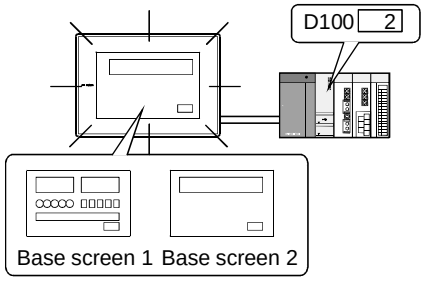
1 What is screen switching device?

A screen switching device is a word device used to switch the screen on the GOT.
The GOT switches to the screen of the numeric value stored in the screen switching device.
Use the screen switching device for screen switching only.

When the value of the screen switching device is 1, the GOT displays Base screen 1.

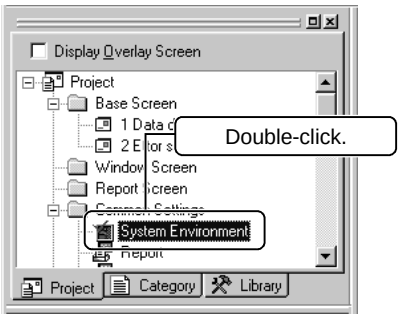


When the value of the screen switching device turns from 1 to 2, the GOT displays Base screen 2.

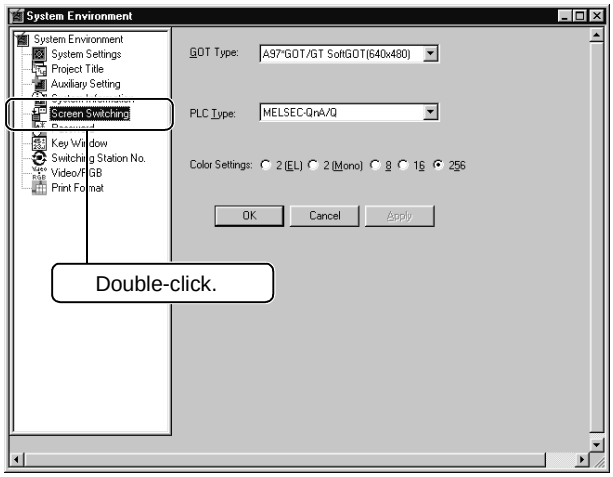


7 - 4

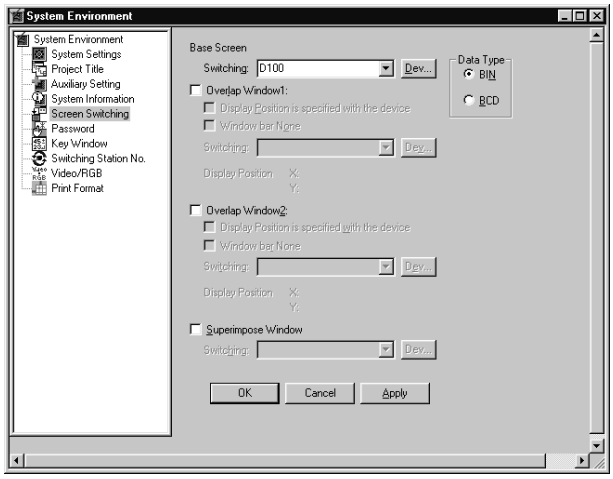
2 Screen switching device setting method



1 Double-click [Common Settings] – [System Environment] in the project workspace.



2 As the System Environment dialog box is displayed, double-click [Screen Switching].



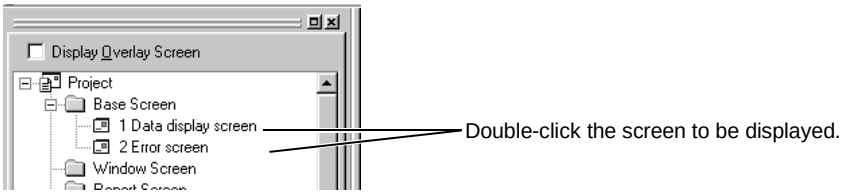
3 As the Screen Switching Device Settings dialog box is displayed, set [Base Screen Switching].

Set data
Base Screen Switching: D100

4 Clicking the OK button completes the setting of the screen switching device.

7.2.4 How to switch between the created screens

One created screen can be switched to the other by double-clicking either of the base screens on the tree in the project workspace.

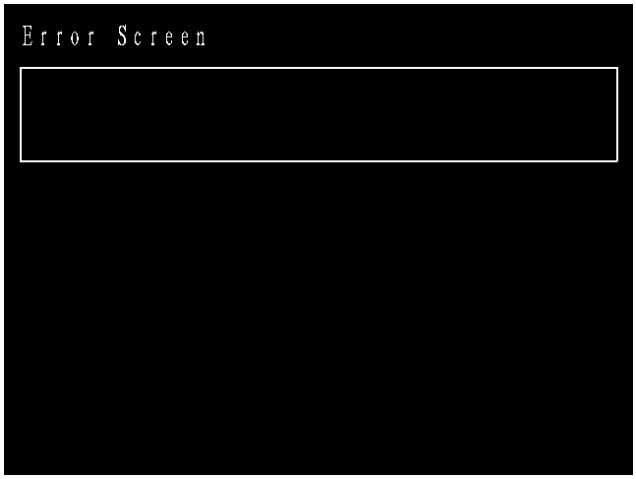


7.3 Drawing Figures and Inputting Texts

First, draw frame lines and input texts to create the following screens.
The methods are described below.

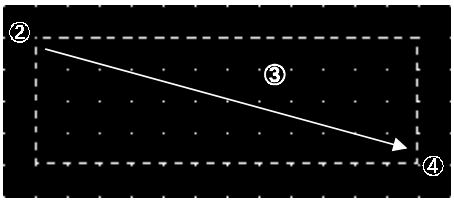
Base screen 1

Base screen 2



1 Frame line drawing method

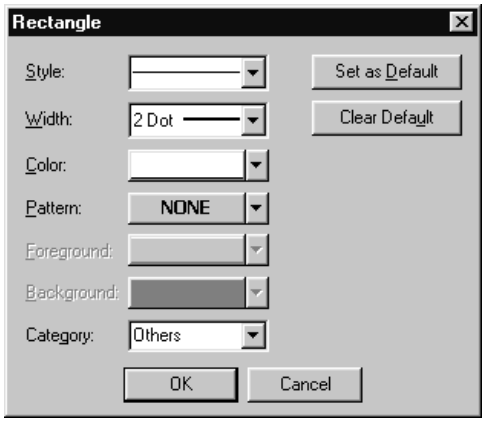
1 Click .



2 As the mouse cursor turns into +, press the left mouse button at the starting point for drawing a rectangular.

3 Drag and move the cursor to the end point.

4 Release the left mouse button to draw a rectangular.
(After arrangement, right-click the mouse to cancel the arrangement mode.)



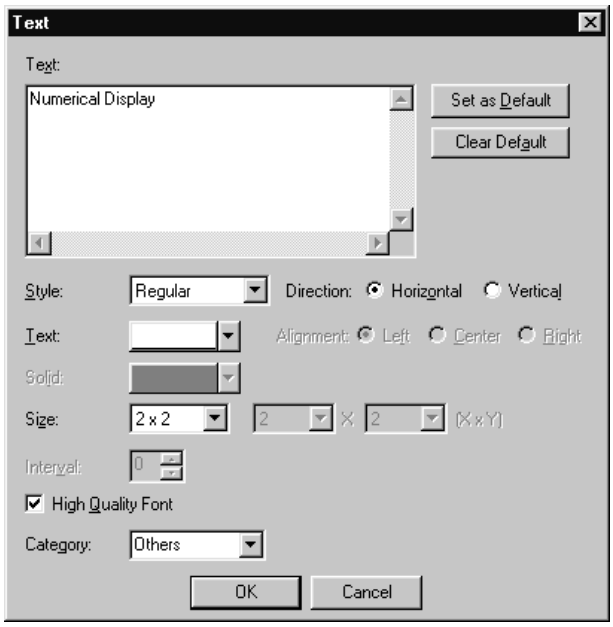
5 As double-clicking the created rectangular displays the Setting dialog box, the color and thickness of the line can be changed.

6 Click the OK button to close the dialog box.

7 Repeat steps 1 to 6 to draw frame lines.
After selecting the drawn figure, holding down the Ctrl key and dragging the figure allows it to be copied easily.

7 - 6

2 Text input method



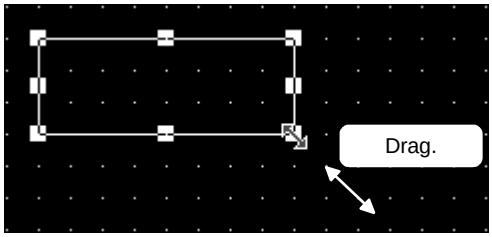
1. Click A.
2. As the mouse cursor turns into +, click the mouse in the position where a text will be entered.
   (After arrangement, right-click the mouse to cancel the arrangement mode.)
3. As clicking the mouse displays the Text dialog box, input a text.
   The input result is immediately reflected on the screen.
4. Click the OK button to close the dialog box.

Hint!

Figure and text size changing method

After selecting the figure or text to be resized, drag the handle (■) to change the size.

Example: When resizing a rectangular

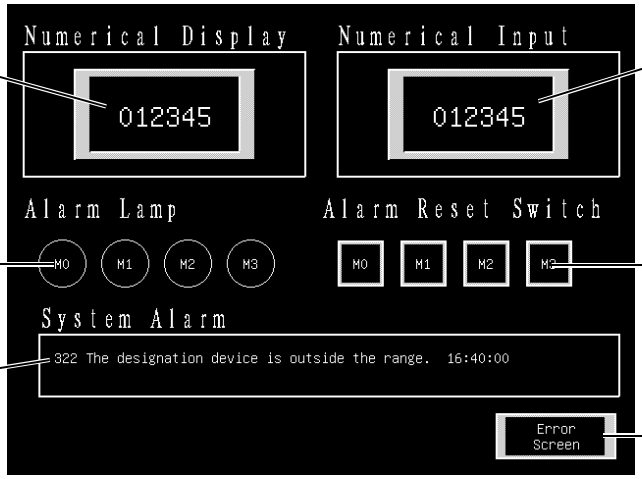


7 - 7

7.4 Setting the Object Function

After drawing figures and texts, set their object functions.
This section explains the object function to be set in this manual.

Base screen 1



Numeric display
The value stored in the PLC CPU device is displayed.
(Section 7.4.1)

Lamp (Bit lamp)
The lamp is lit when the bit device of the PLC CPU turns ON.
(Section 7.4.2)

Alarm list display (System Alarm)
The error that occurred in the GOT is displayed.
(Section 7.4.5)

Numeric input
The value is written to the PLC CPU device.
(Section 7.4.1)

Touch switch (Bit switch)
Touching this switch turns OFF the bit device of the PLC CPU.
(Section 7.4.3)

Touch switch (Goto Screen switch)
Touching this switch switches the screen.
(Section 7.4.4)

Base screen 2

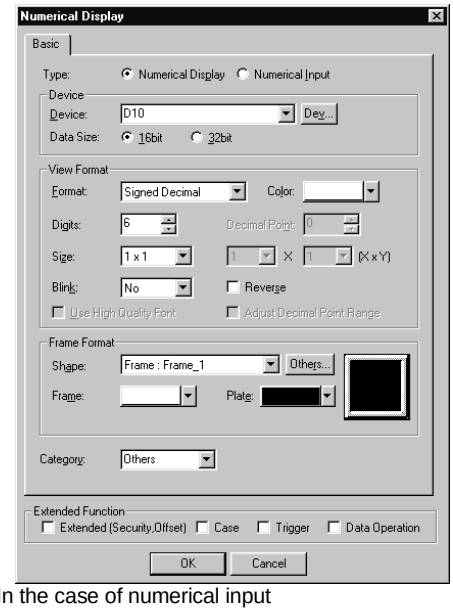
Alarm list display (Use Alarm)
When the bit device turns ON, the corresponding comment preregistered by the user is displayed.
(Section 7.4.6)

Touch switch (Goto Screen switch)
Touching this switch switches the screen.
(Section 7.4.4)

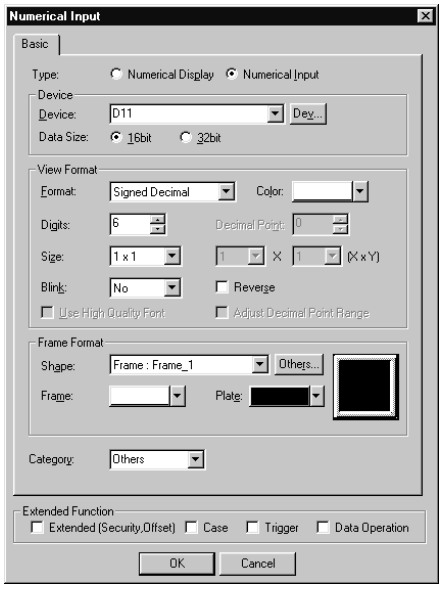
7 - 8

7.4.1 Numerical display/numerical input setting method

In the case of numerical display



In the case of numerical input



(To next page)

1. Click 123 (Numerical Display) or 123 (Numerical Input).

2. As the mouse cursor turns into +, click the mouse in the desired position to arrange the display or input.
(After arrangement, right-click the mouse to cancel the arrangement mode.)

3. As double-clicking the arranged numerical display or numerical input displays the dialog box, make settings. (See below.)

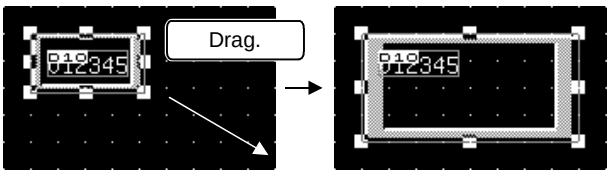
Set data (Numerical Display)
Type : Numerical Display
Device: D10
Shape : Frame_1

Set data (Numerical Input)
Type : Numerical Input
Device: D11
Shape : Frame_1

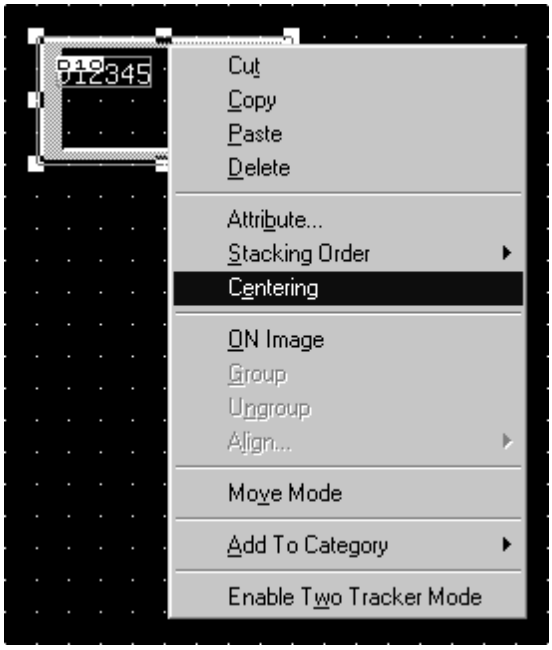
4. After the setting is complete, click the OK button.

7 - 9

(From previous page)



5 Change the size.



6 When the object is resized, the figure frame and object may be displaced.
If the figure frame and object are displaced, select the object, then right-click the mouse, and select [Centering].
The displacement is automatically corrected.

When [Enable Two Tracker Mode] is selected, the figure frame and object can be moved individually by the user.

7 This completes the numerical display/input setting.

Objects set in this section

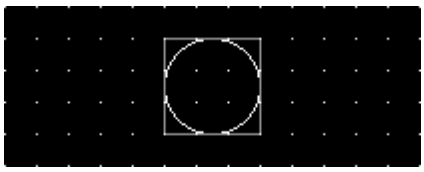
Base screen 1

Base screen 2

7 - 10

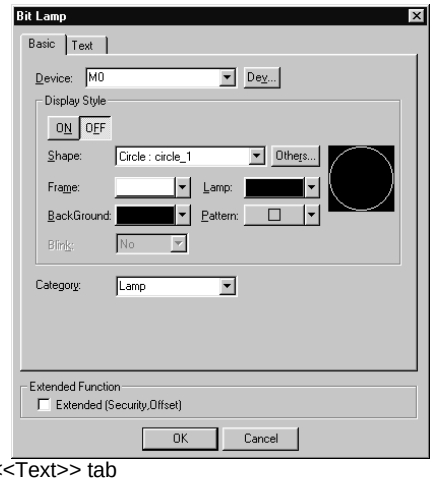
7.4.2 Lamp setting method

1 Click .



2 As the mouse cursor turns into +, click the mouse in the desired position to arrange the lamp.
(After arrangement, right-click the mouse to cancel the arrangement mode.)

<<Basic>> tab

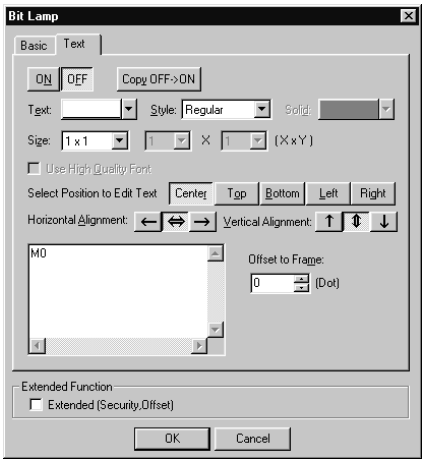


3 As double-clicking the arranged lamp displays the dialog box, make settings. (See below.)

Set data Basic tab
Device: M0

Set data Text tab
Text : M0

<<Text>> tab



4 After Text tab setting, click the Copy OFF → ON button.
(The Text tab data set at OFF is reflected at ON.)
Click the ON button to confirm the ON-time attributes.

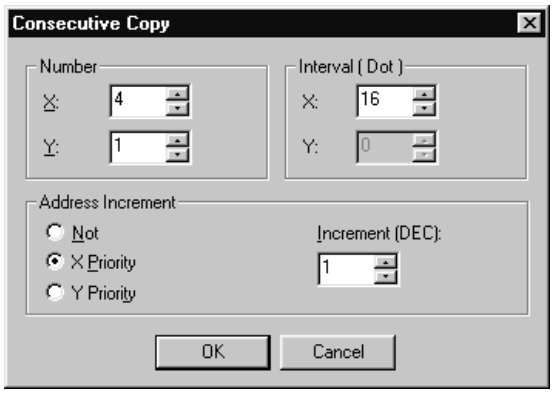
5 After the setting is complete, click the OK button.

6 This completes the setting of the first lamp.

(To next page)

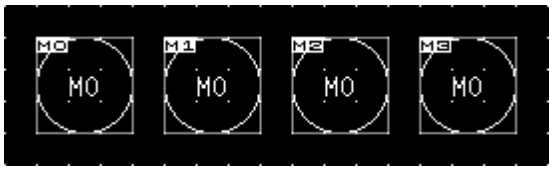
7 - 11

(From previous page)

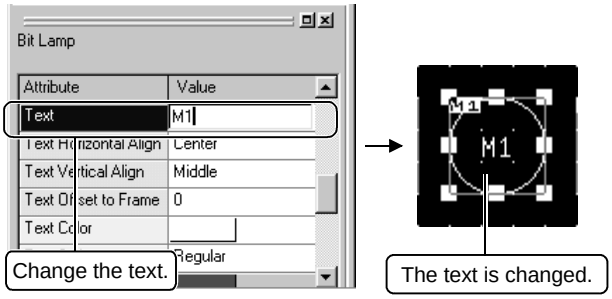


7 When creating the second lamp or later, select the set lamp and then select the [Edit] → [Consecutive Copy] menu to display the Consecutive Copy dialog box.

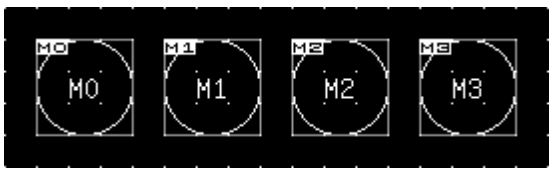
Set data
Number X: 4
Interval X: 16



8 Click the OK button to copy the lamp.



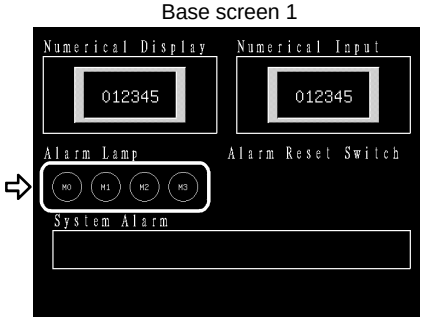
9 Change the text of each lamp in the Property sheet.



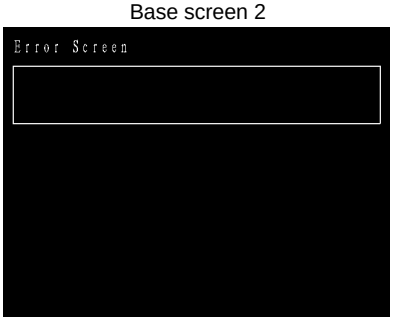
10 This completes the lamp setting.

Objects set in this section

Base screen 1

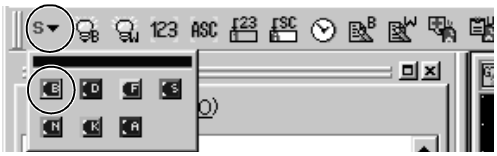


Base screen 2

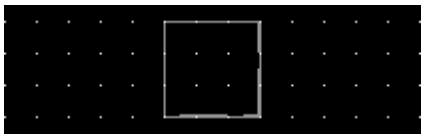


7 - 12

7.4.3 Touch switch (bit switch) setting method

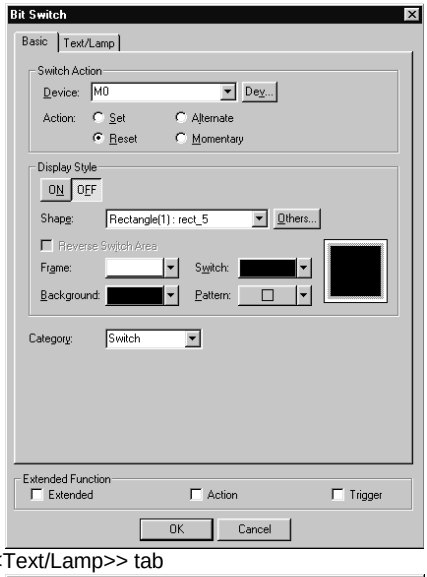


1 Click S▾ to select (Bit Switch) in the sub menu.



2 As the mouse cursor turns into +, click the mouse in the desired position to arrange the touch switch.
(After arrangement, right-click the mouse to cancel the arrangement mode.)

<<Basic>> tab

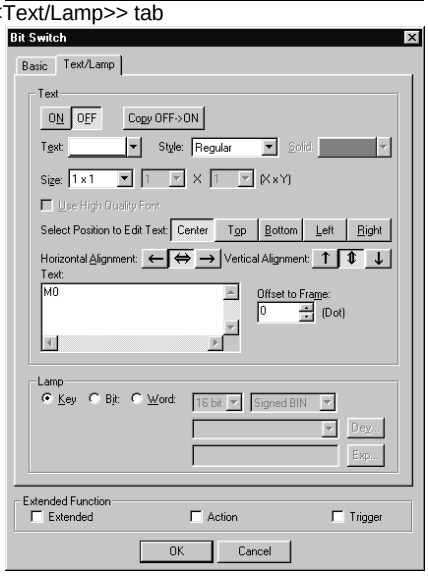


3 As double-clicking the arranged touch switch displays the dialog box, make settings. (See below.)

Set data Basic tab
Device: M0
Action : Reset
Shape : rect_5

Set data Text/Lamp tab
Text : M0

<<Text/Lamp>> tab



4 After setting, click the Copy OFF → ON button on the Text tab.
(The Text tab data set at OFF is reflected at ON.)
Click the ON button to confirm the ON-time attributes.

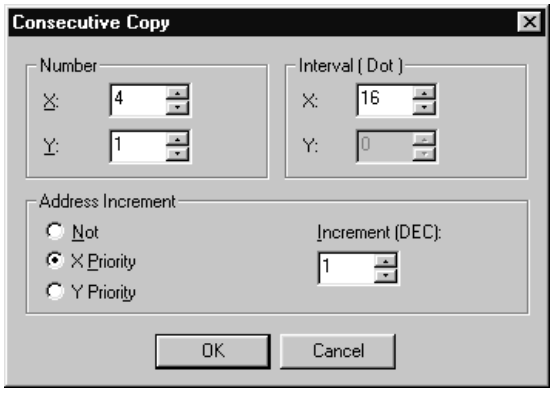
5 After the setting is complete, click the OK button.

(To next page)

7 - 13

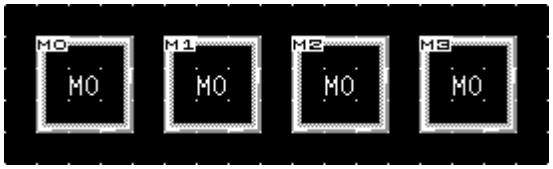
(From previous page)

6 This completes the setting of the first touch switch.

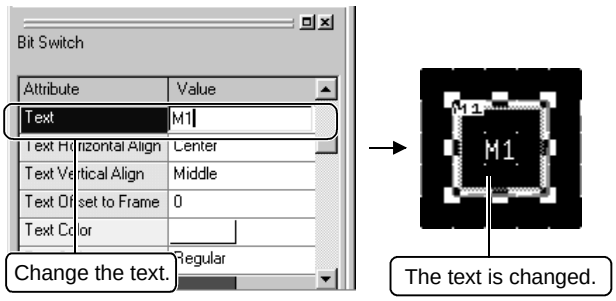


7 When creating the second touch switch or later, select the touch switch and then select the [Edit] → [Consecutive Copy] menu to display the Consecutive Copy dialog box.

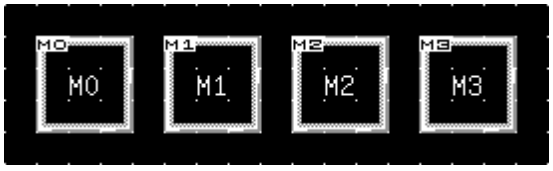
Set data
Number X: 4
Interval X: 16



8 Click the OK button to copy the touch switch.



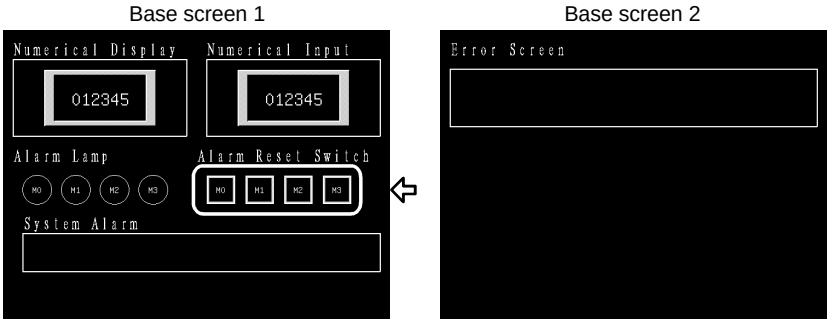
9 Change the text of each touch switch in the Property sheet.



10 This completes the touch switch setting.

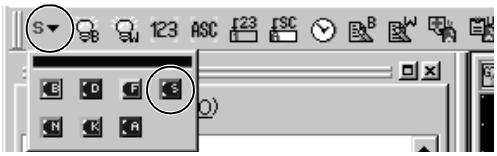
7 - 14

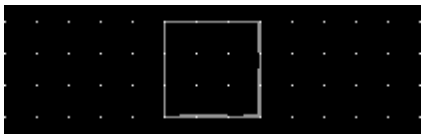
Objects set in this section



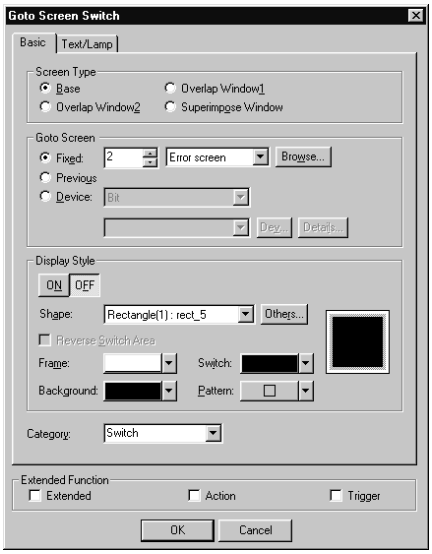
7 - 15

7.4.4 Touch switch (Goto Screen switch) setting method

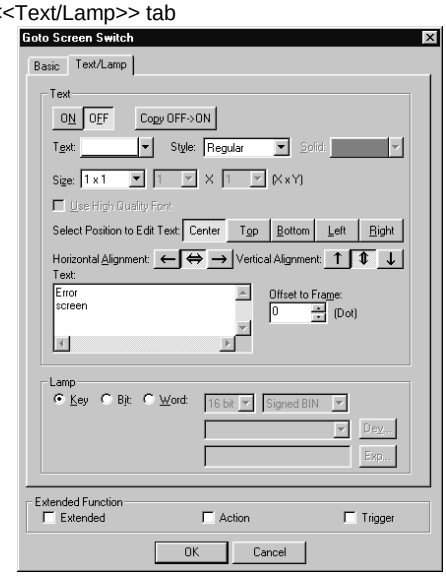




<<Basic>> tab



<<Text/Lamp>> tab



(To next page)

1. Click S▾ to select (Goto Screen Switch) in the sub menu.

2. As the mouse cursor turns into +, click the mouse in the desired position to arrange the touch switch.
(After arrangement, right-click the mouse to cancel the arrangement mode.)

3. As double-clicking the arranged touch switch displays the dialog box, make settings. (See below.)

Set data Basic tab
Goto screen: Fixed Screen (2)
Shape : rect_5

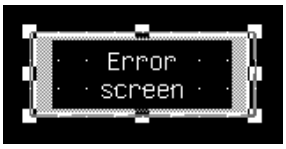
Set data Text/Lamp tab
Text : Error↵
screen

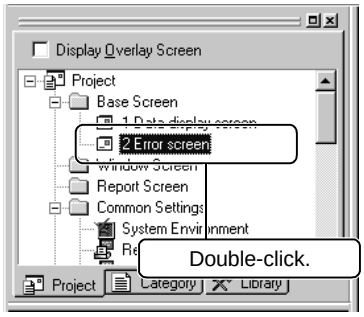
4. After setting, click the [Copy OFF → ON] button on the Text tab.
(The Text tab data set at OFF is reflected at ON.)
Click the [ON] button to confirm the ON-time attributes.

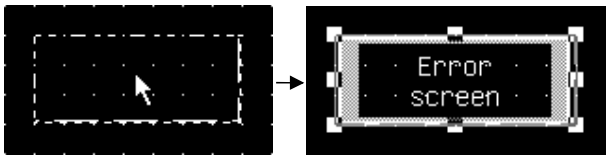
5. After the setting is complete, click the [OK] button.

7 - 16

(From previous page)

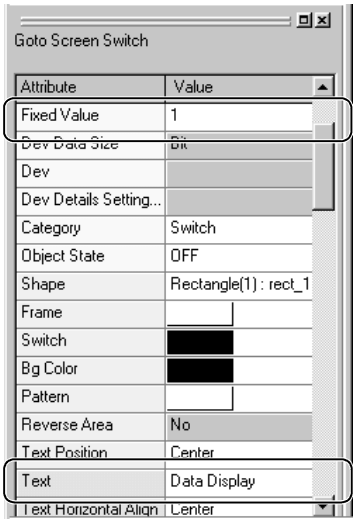






Press the Ctrl key + V key to prepare for pasting.

Click the mouse to paste the switch.



(To next page)

6 This completes the setting of the touch switch on Base screen 1.
After setting, press the Ctrl key + C key with the touch switch selected.
(Shortcut: Copy)

7 Double-click Base Screen 2 (Error screen) on the tree in the Project workspace to display Base screen 2.

8 Press the Ctrl key + V key on Base screen 2 to paste the copied touch switch.
(Shortcut: Paste)
Click the mouse to paste the touch switch.

9 Select the pasted switch, and change the set data in the Property sheet.

Set data
Fixed value : 2 → 1
Text : Error ↵ screen → Data display

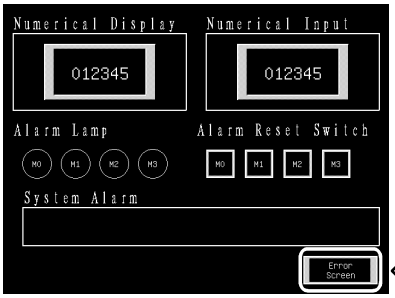
7 - 17

(From previous page)

10 This completes the Goto Screen switch setting.

Objects set in this section

Base screen 1

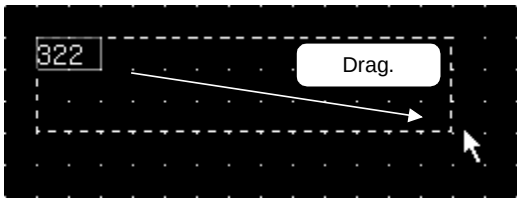


Base screen 2

7.4.5 Alarm List (System Alarm) setting method

1 Click  .

2 As the mouse cursor turns into +, click the mouse in the desired position to arrange the alarm list.
(After arrangement, right-click the mouse to cancel the arrangement mode.)

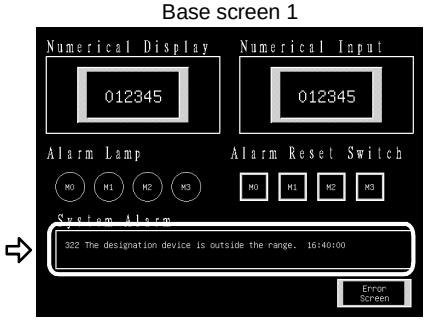


3 Adjust the size.

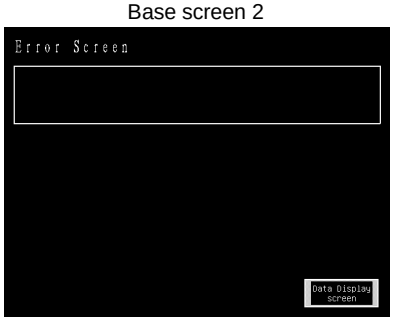
4 This completes the setting of the alarm list (system alarm).

Object set in this section

Base screen 1



Base screen 2



7 - 18

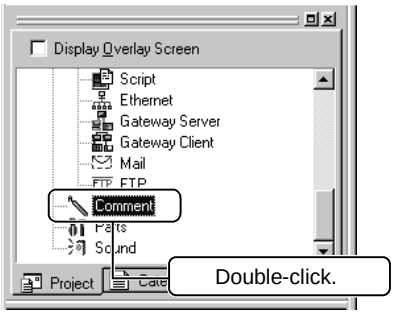
7.4.6 Alarm List (User Alarm) setting method

To use the Alarm List (User Alarm), the comments to be displayed as alarms must be registered beforehand.

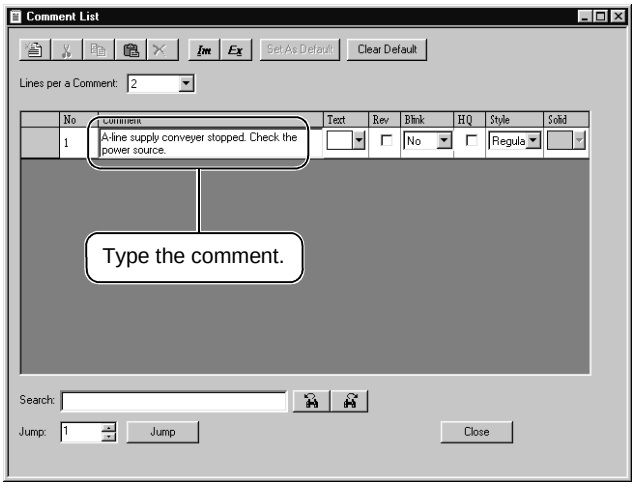
1 Comment registering method

In this manual, the following comments will be registered.

Comment No	Comment
1	A-line supply conveyer stopped. Check the power source.
2	Emergency stop limit switch operated. Check the product.
3	Product limit switch does not operate. Check for presence/absence of the product.
4	Hydraulic pressure of finishing machine 1 is low. Supply hydraulic oil.



1 Double-click [Comment] on the tree in the project workspace.



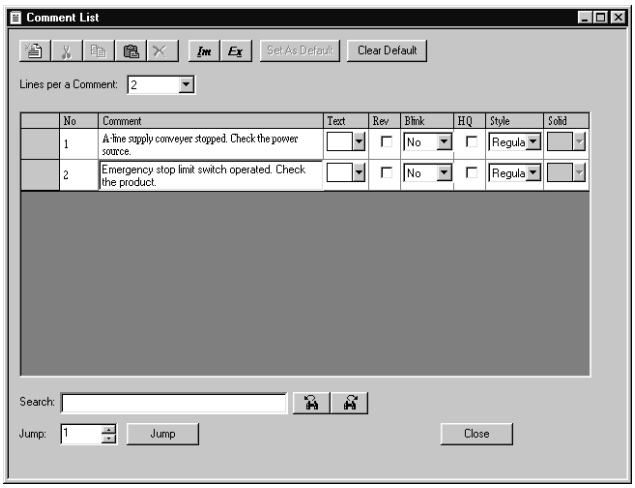
2 As the dialog box is displayed, register a comment.

3 After registering the comment, click  (New Comment).

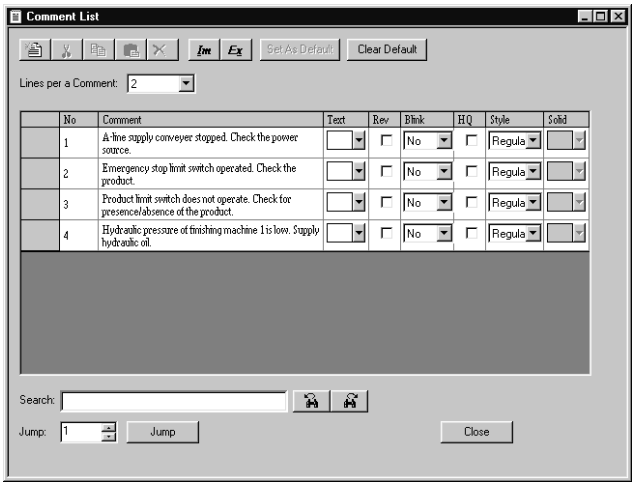
(To next page)

7 - 19

(From previous page)



4 Register the second comment.
After that, register the third and fourth comments in the same procedure.



5 When comment creation is completed, click the Close button.

2 Alarm List (User Alarm) setting method

1 Click .

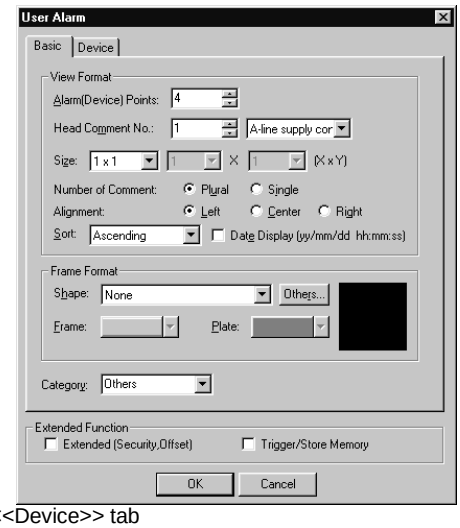
2 As the mouse cursor turns into +, click the mouse in the desired position to arrange the alarm list.

(To next page)

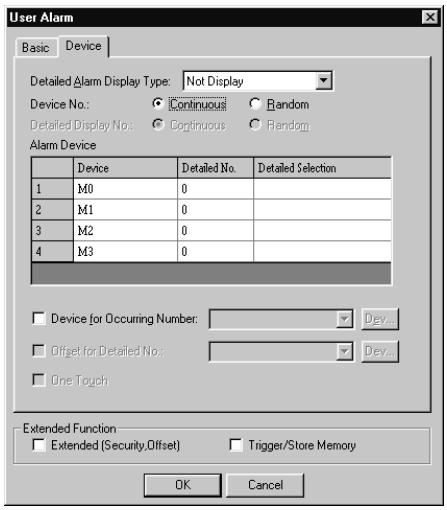
7 - 20

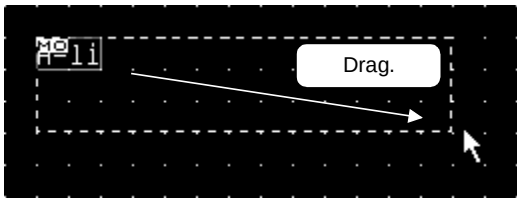
(From previous page)

<<Basic>> tab



<<Device>> tab





3 As double-clicking the arranged alarm list displays the dialog box, make settings. (See below.)

Set data Basic tab
Alarm (Device) Points: 4

Set data Device tab
Device No. : Continuous
Alarm Device : M0

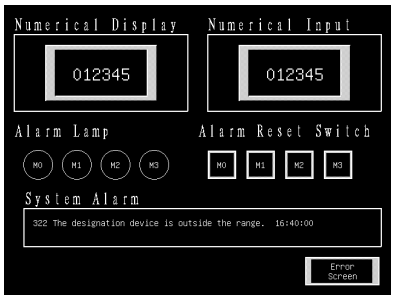
4 After setting is complete, click the OK button.

5 Adjust the size.

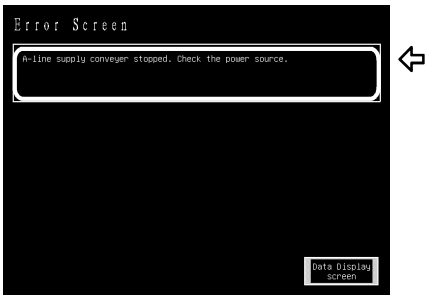
6 This completes the setting of the alarm list (user alarm).

Object set in this section

Base screen 1



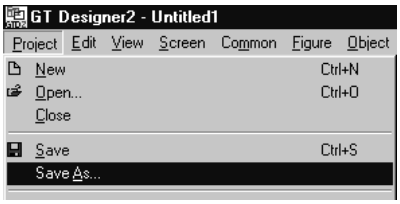
Base screen 2

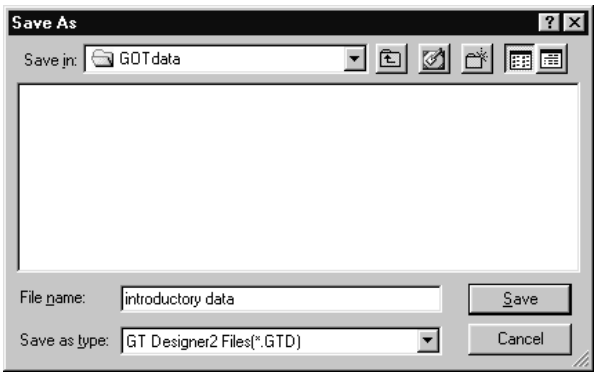


7 - 21

7.5 Saving the Created Monitor Data

How to save the created monitor data is explained in this section.





1. Select the [Project] → [Save As].

2. As the dialog box is displayed, select the storage location and set the file name.

3. Click the [Save] button to save the monitor data.

7 - 22

8. EXECUTING MONITOR ON THE GOT

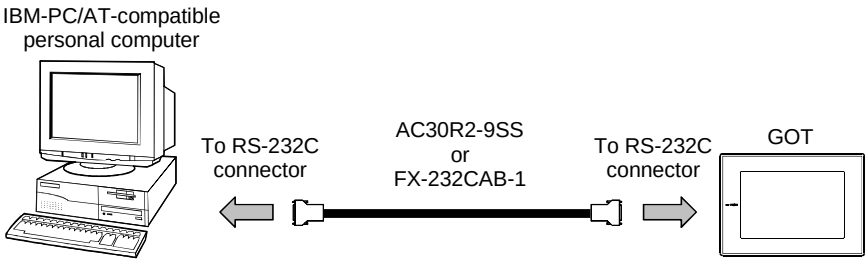
This chapter explains how to transfer the monitor data, which was created on GT Designer2, to the GOT and display them.
This manual uses the A975GOT in the example for explanation.

8.1 Transferring Monitor Data from Personal Computer to GOT

This section explains how to transfer the monitor screen data from the personal computer to the GOT.

8.1.1 Connecting the personal computer and GOT

Connect the personal computer and GOT.



Hint! To shorten data transfer time

A PC card can also be used to transfer the monitor data.
When the PC card is used, work time can be shortened since the data transfer speed is higher than RS-232C communication speed. ＊1
Refer to the following manual for data transfer using the PC card.

☞ GT Designer2 Version1 Operating Manual

＊1 Reference value ••• In the case of screen data (589,572 bytes (30 screens)), PC card: approx. 55 seconds, RS-232C communication: approx. 5 minutes

8

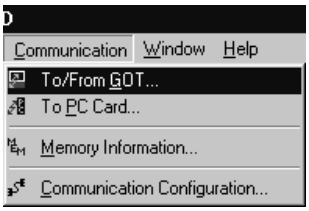
8 - 1

8.1.2 Installing the OS and communication driver

The GOT does not include the OS for monitoring and the driver for communication with the PLC CPU. Hence, this installation operation must be performed only once before starting monitoring.
This operation is required again when the OS is updated or the method of communication with the PLC is changed.

Point Precautions for installation of OS

Installing the OS into the GOT erases the monitor data in the GOT.
When the data in the GOT is necessary, upload them.
(☞ Section 8.3 Uploading)



1 Select the [Communication] → [To/From GOT].

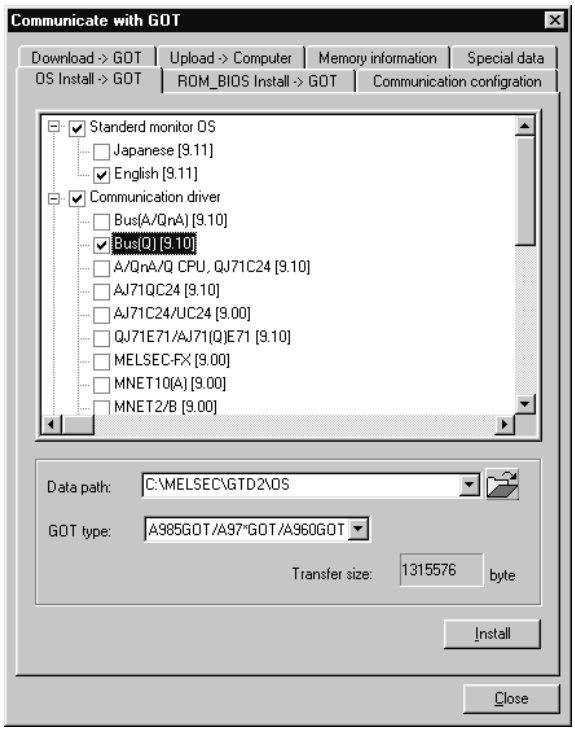
2 As the dialog box is displayed, select the Communication Configuration tab.

3 On the Communication Configuration tab, confirm and set the communication setting of the used personal computer.
After setting, select the OS install -> GOT tab.

(To next page)

8

(From previous page)



4 On the OS install -> GOT tab, select the standard monitor OS, communication driver and extended function OS to be installed into the GOT.
The following OSs are selected in this manual.

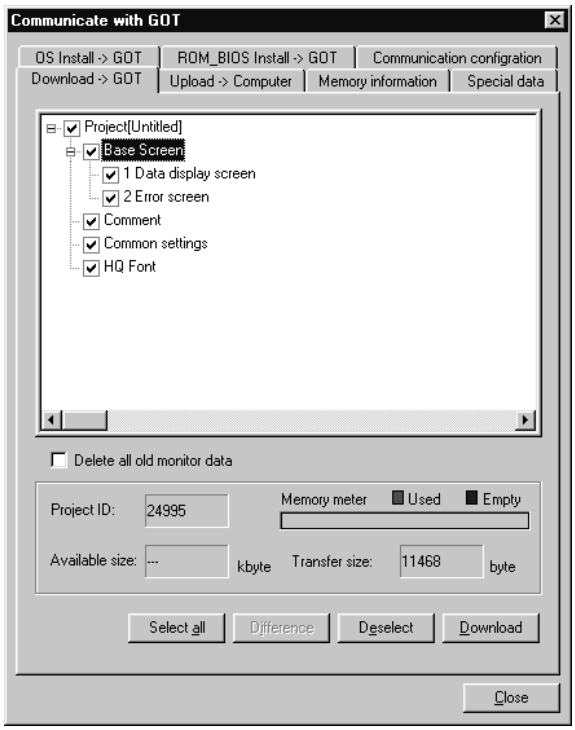
- Standard monitor OS : English
- Communication driver: Bus connection (Q)
- Extended function OS: Not installed.
- GOT type : A985GOT/A97＊GOT/A960GOT

After making selection, click the Install button to start the installation of the OS and communication driver.

5 After OS installation is completed, reset the GOT.

8.1.3 Downloading the monitor data

After OS installation, download the created monitor data to the GOT.



1 Select the Download -> GOT tab.

2 On the Download -> GOT tab, select the data (base screen, window screen, common settings) to be downloaded to the GOT.

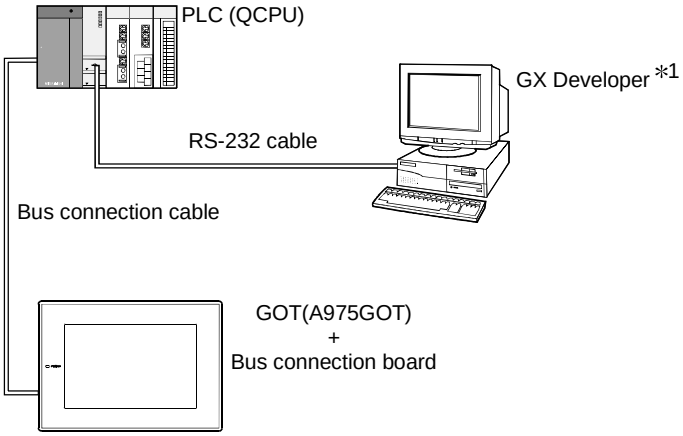
- Project configuration tree: Check all.

After making selection, click the Download button to start the downloading of the monitor data.

8.2 Connecting with the PLC CPU

After transferring the OS, communication driver and monitor screen data to the GOT, connect the GOT and PLC CPU.
This manual explains this connection in an example of bus-connecting the A975GOT and QCPU.

System configuration example



*1 For the system configuration, usage, etc. of GX Developer, refer to the GX Developer Operating Manual.

Point Precautions for bus connection

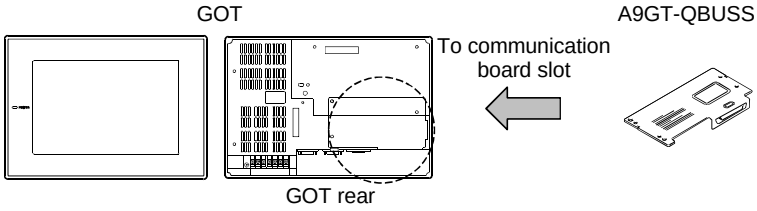
Refer to the following manual for the precautions for bus connection.

Refer to the GOT-A900 Series User's Manual (GT Works2 Version ☐/ GT Designer2 Version ☐ compatible Connection System Manual).

1 Connecting the communication board to the GOT

Mount the bus connection board to the communication board slot of the GOT.
Mount the bus connection board with the GOT powered OFF.
Refer to the following manual for the communication board mounting method.

A985GOT/A975GOT/A970GOT/A960GOT User's Manual

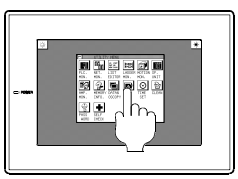


2 Setting the extension stage number and I/O slot No. of the GOT

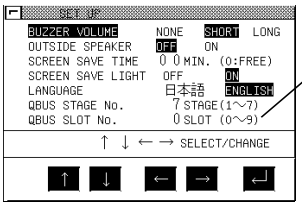
When bus connection is made, the extension stage number and I/O slot No. of the GOT must be set in [Setup] of the GOT utility.

For details of the utility, refer to the following manual.

GOT-A900 Series Operating Manual (GT Works2 Version ☐/GT Designer2 Version ☐ compatible Extended•Option Functions Manual)



Select "Setup" of utility.



QBUS extension stage number: Set to "1".
QBUS slot No. : Set to "0".

In this example, set the QBUS extension stage number to "1".

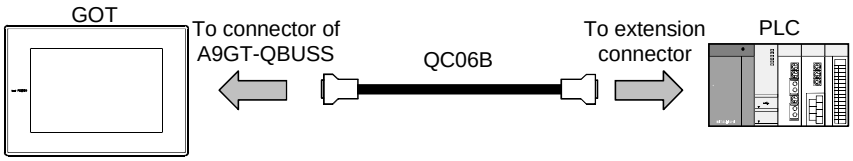
3 Connecting to the PLC CPU

Connect the GOT and PLC CPU with the bus connection cable.

Before connecting the GOT to the PLC CPU, always power off the whole system.

Refer to the following manual for details of the system configuration for connection.

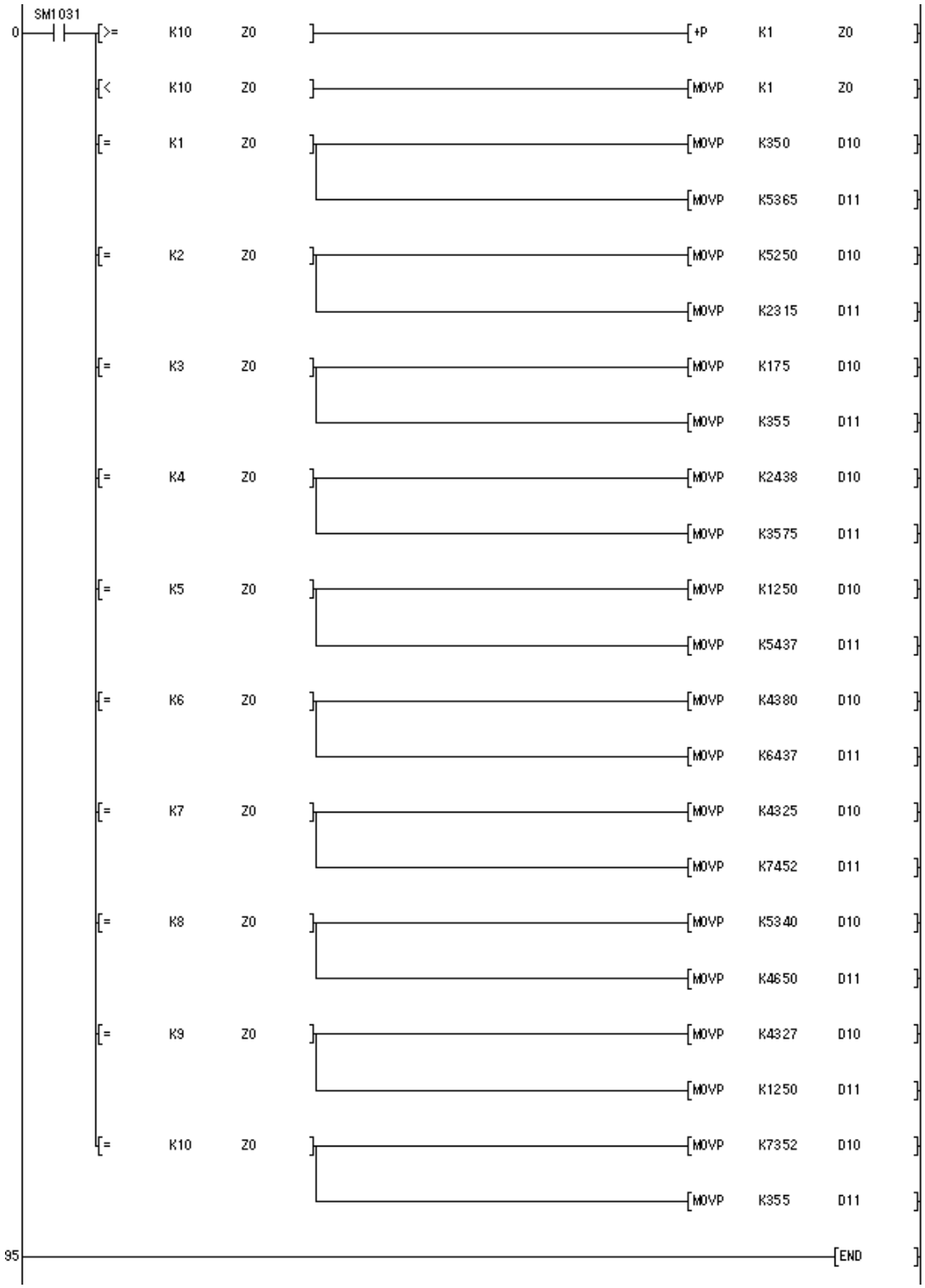
GOT-A900 Series Operating Manual (GT Works2 Version ☐/GT Designer2 Version ☐ compatible Connection System Manual)



In this example, connect to the main base.

8 - 5

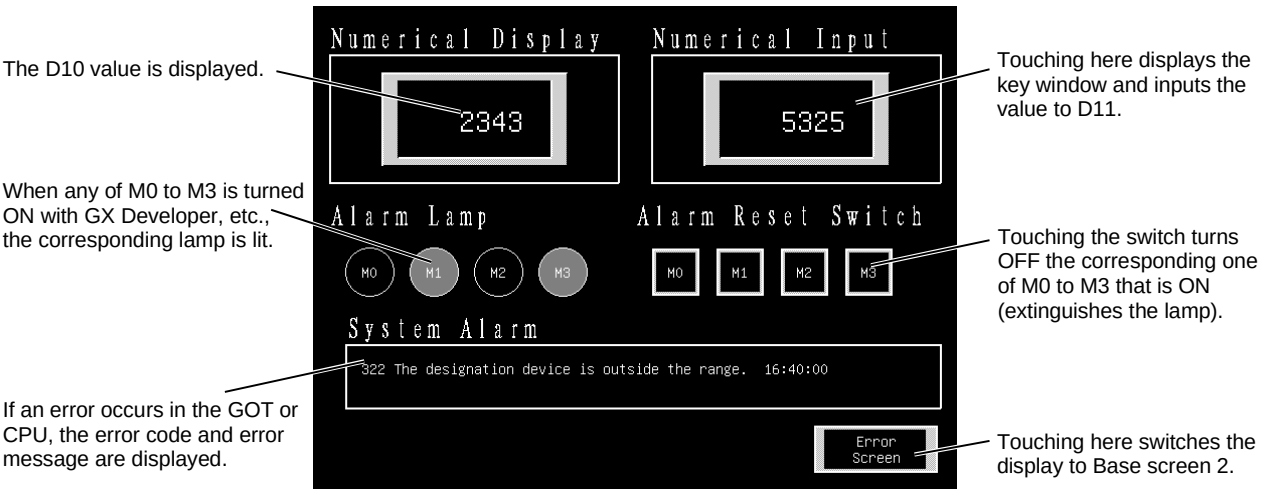
4 Sequence program used in this section



8 - 6

5 Operation image on GOT

Base screen 1



The D10 value is displayed.

When any of M0 to M3 is turned ON with GX Developer, etc., the corresponding lamp is lit.

If an error occurs in the GOT or CPU, the error code and error message are displayed.

Touching here displays the key window and inputs the value to D11.

Touching the switch turns OFF the corresponding one of M0 to M3 that is ON (extinguishes the lamp).

Touching here switches the display to Base screen 2.

Base screen 2

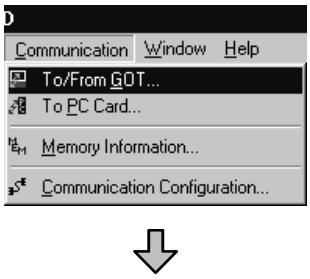
Comments of M0 to M3 that are ON on Base screen 1 are displayed.

Touching here switches the display to Base screen 1.

8 - 7

8.3 Uploading

When it is desired to back up or correct the monitor data that has been downloaded to the GOT, upload the monitor data to the personal computer.



1 Select the [Communication] → [To/From GOT].

2 As the dialog box is displayed, select the Upload -> Computer tab.

• Upload path: GT Designer2

3 Click the [Upload] button to execute uploading.

8 - 8

WARRANTY

Please confirm the following product warranty details before using this product.

1. Gratis Warranty Term and Gratis Warranty Range

If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the sales representative or Mitsubishi Service Company.
However, if repairs are required onsite at domestic or overseas location, expenses to send an engineer will be solely at the customer's discretion. Mitsubishi shall not be held responsible for any re-commissioning, maintenance, or testing on-site that involves replacement of the failed module.

[Gratis Warranty Term]

The gratis warranty term of the product shall be for one year after the date of purchase or delivery to a designated place.
Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be eighteen (18) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

[Gratis Warranty Range]

(1) The range shall be limited to normal use within the usage state, usage methods and usage environment, etc., which follow the conditions and precautions, etc., given in the instruction manual, user's manual and caution labels on the product.
(2) Even within the gratis warranty term, repairs shall be charged for in the following cases.
1. Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
2. Failure caused by unapproved modifications, etc., to the product by the user.
3. When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
4. Failure that could have been avoided if consumable parts (battery, backlight, fuse, etc.) designated in the instruction manual had been correctly serviced or replaced.
5. Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
6. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
7. Any other failure found not to be the responsibility of Mitsubishi or that admitted not to be so by the user.

2. Onerous repair term after discontinuation of production

(1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued. Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.
(2) Product supply (including repair parts) is not available after production is discontinued.

3. Overseas service

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

4. Exclusion of loss in opportunity and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation of damages caused by any cause found not to be the responsibility of Mitsubishi, loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products, special damages and secondary damages whether foreseeable or not , compensation for accidents, and compensation for damages to products other than Mitsubishi products, replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

5. Changes in product specifications

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

6. Product application

(1) In using the Mitsubishi MELSEC programmable logic controller, the usage conditions shall be that the application will not lead to a major accident even if any problem or fault should occur in the programmable logic controller device, and that backup and fail-safe functions are systematically provided outside of the device for any problem or fault.
(2) The Mitsubishi programmable logic controller has been designed and manufactured for applications in general industries, etc. Thus, applications in which the public could be affected such as in nuclear power plants and other power plants operated by respective power companies, and applications in which a special quality assurance system is required, such as for Railway companies or Public service purposes shall be excluded from the programmable logic controller applications.
In addition, applications in which human life or property that could be greatly affected, such as in aircraft, medical applications, incineration and fuel devices, manned transportation, equipment for recreation and amusement, and safety devices, shall also be excluded from the programmable logic controller range of applications.
However, in certain cases, some applications may be possible, providing the user consults their local Mitsubishi representative outlining the special requirements of the project, and providing that all parties concerned agree to the special circumstances, solely at the users discretion.

GT Works2 Version1/
GT Designer2 Version1

Operating Manual(Startup•Introductory Manual)

MODEL	SW1-GTD2-O(STA)-E
MODEL CODE	1DM203
SH(NA)-080250-D(0409)MEE	

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE : 1-8-12, OFFICE TOWER Z 14F HARUMI CHUO-KU 104-6212,JAPAN
NAGOYA WORKS : 1-14 , YADA-MINAMI 5-CHOME , HIGASHI-KU, NAGOYA , JAPAN