

MITSUBISHI

MITSUBISHI GRAPHIC OPERATION TERMINAL

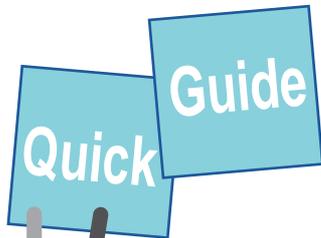
Changes for the Better



To be the **best!**

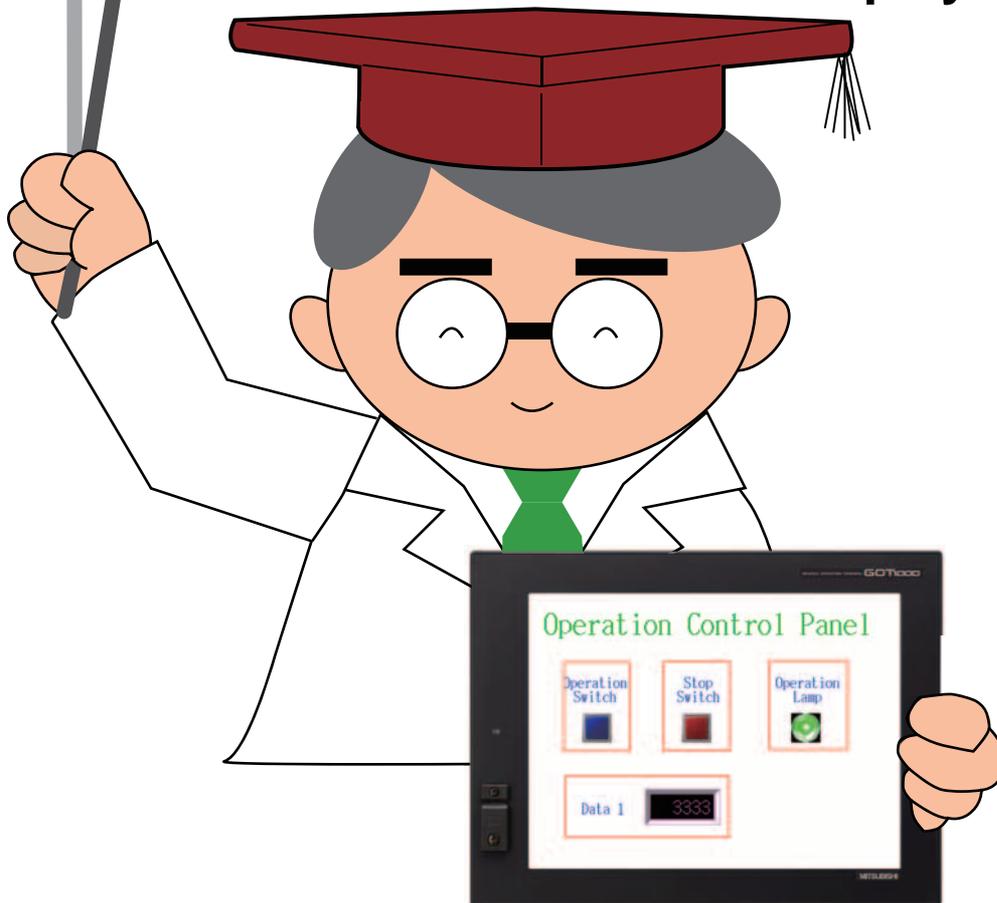
GRAPHIC OPERATION TERMINAL

GOT1000



Quick Guide Vol. 1

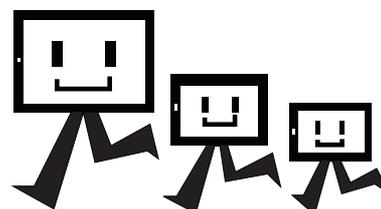
For lamp switch and numerical display



Introduction



Appendix



● SAFETY PRECAUTIONS ●

(Read it carefully before using)

To use the GOT and the related products, read this guide and the relevant manuals mentioned in the guide beforehand, and operate correctly.

Operate according to the guide

Danger

- To avoid electric shocks, do not touch the terminals when the system is electrified.
- To open the safety cover, turn off the power and open the cover after you are sure that it is totally safe.

Note

- Turn off the power before connecting and disconnecting units.
Failure to do so causes problems of the units and electric shocks.
- Stop using the GOT when abnormality occurs.

Relevant manuals for GOT 1000 series

For details of the contents in this guide, refer to relevant manuals for GOT 1000 series.
Relevant manuals for GOT 1000 series can be downloaded from MITSUBISHI ELECTRIC FA NETWORK SERVICE MELFANS website(<http://wwwf2.mitsubishielectric.co.jp/melfansweb/english/index.html>).

- * This guide takes GT Designer2 Version 2.69X as an example to explain.
The displayed menus and screens may differ according to versions of software used.

Contents

Introduction

1. GOT tips	2
1-1. What is GOT?	2
1-2. Advantages of adopting GOT	2
1-3. Data processed in GOT	3
1-4. Preparations before using GOT	4
2. Necessary equipment	5
2-1. Equipment for creating screens	5
2-2. Equipment for transferring data	5
2-3. Equipment for monitoring operation	5
3. Operation principle of GOT	6
3-1. System example	6
3-2. Actions of GOT and Programmable controller	6

STEP 1 Creating project data

1. Creating a screen	8
1-1. Example of creating a screen	8
1-2. Types of objects	9
1-3. Creating a new project	10
2. Setting object functions	15
2-1. Setting switches	15
2-2. Setting lamps	19
2-3. Setting numerical display	21
2-4. Characters input	22
3. Setting the position of connection	28
4. Saving project data	32

STEP 2 Transferring project data

1. Connecting Personal computer and GOT	34
2. Transferring data	35
2-1. Setting communication between Personal computer and GOT	35
2-2. Installing OS	36
2-3. Downloading project data	38
3. Connecting GOT and programmable controller	39
3-1. Checking communication unit	39
3-2. Connecting programmable controller	39
3-3. Checking the communication between GOT and programmable controller	40

STEP 3 Trying to operate the GOT

1. Displaying the created screen	42
2. Pressing the Operation switch	43
3. Pressing the Stop switch	44

Appendix

1. More about screen	45
2. More about functions	46

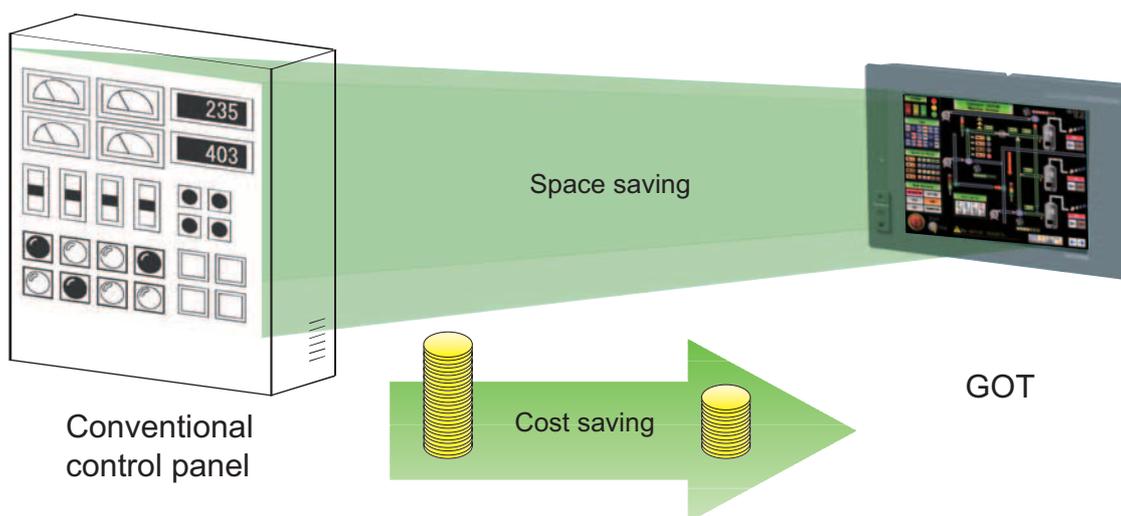
1. GOT tips

2. Necessary equipment
3. Operation principle of GOT

1-1. What is GOT?

GOT (Graphic Operation Terminal) is a touch-screen HMI, allowing you to execute operations which could only be done on control panel conventionally, such as switch operation, lamp display, data display, information display and so on, on monitor screen.

1-2. Advantages of adopting GOT



(1) Miniaturization of control panel

Allowing you to set various functions via software, reducing number of hardware parts such as switches and lamps, achieving the miniaturization of equipment.

(2) Saving wiring cost

The functions achieved through wiring of parts in control panel can be achieved through setting of software, eliminating the complicated and costly wiring.

(3) Standardization of control panel

Even if the requirement specifications change, the control panel can be standardized easily through the screen data setting from software.

(4) More values as HMI (Human Machine Interface)

Besides switch and lamp display, the graphic display, character display, alarm display can be easily achieved, increasing the whole additional value of the equipment.



Term explanation

GOT

G : Graphic

O : Operation

T : Terminal

Abbreviation of "Graphic Operation Terminal", stands for the programmable HMI of MITSUBISHI ELECTRIC CORPORATION.

1. GOT tips

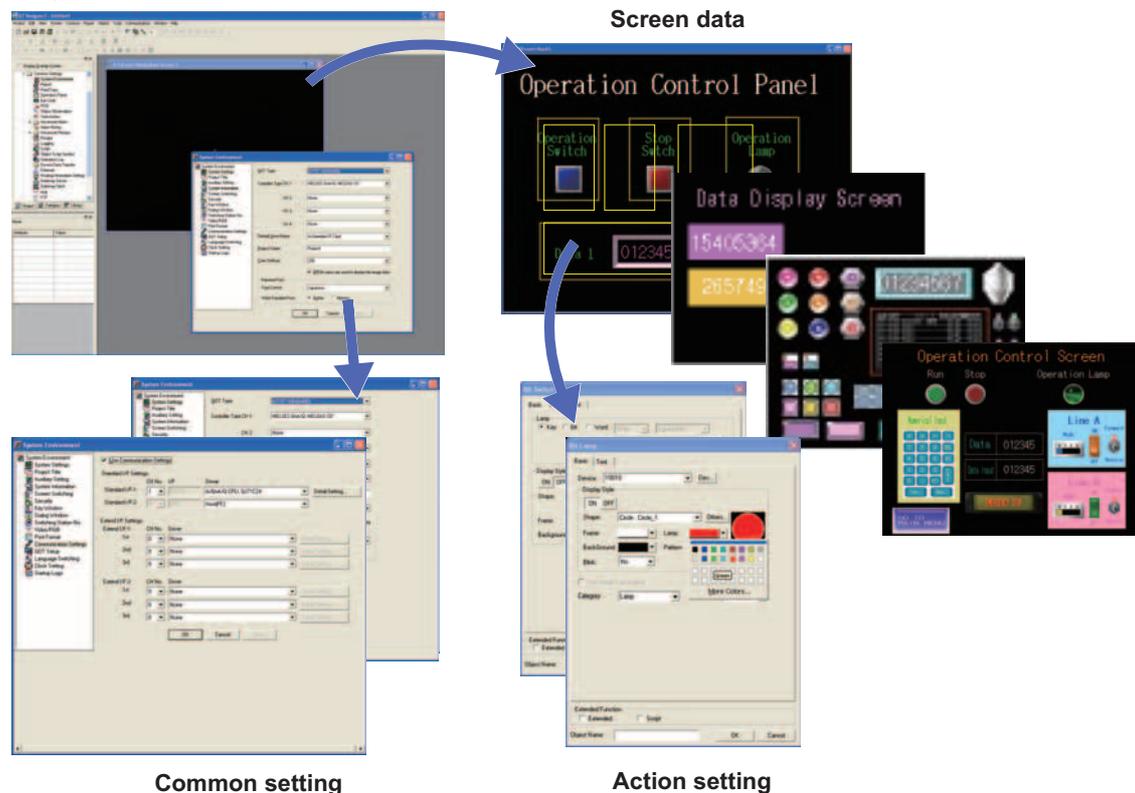
2. Necessary equipment
3. Operation principle of GOT

1-3. Data processed in GOT

The screen data displayed on GOT is created by dedicated drawing software (GT Designer2) on the personal computer. The data collection (such as screen data created by the graphic software and action settings) displayed in one GOT is called **project data**.

In GOT, a screen consists of displaying frame figures which are called objects, such as switch figure, lamp figure and numerical display. The corresponding device (bit, word) of programmable controller CPU will enable act function for these projects incorporated as one separately, so as to execute each function of GOT.

Project data



Term explanation

Device

It is a generic term of internal memory in programmable controller. To memorize data used by programmable controller or ON/OFF signal. There are various devices for different purposes, such as input (X), output (Y), and data memory (D).

Bit device

It is the device (in programmable controller) that sends information in bit. Bit is the smallest unit to process the information in 0 (OFF) and 1 (ON), mainly used to process ON and OFF signal.

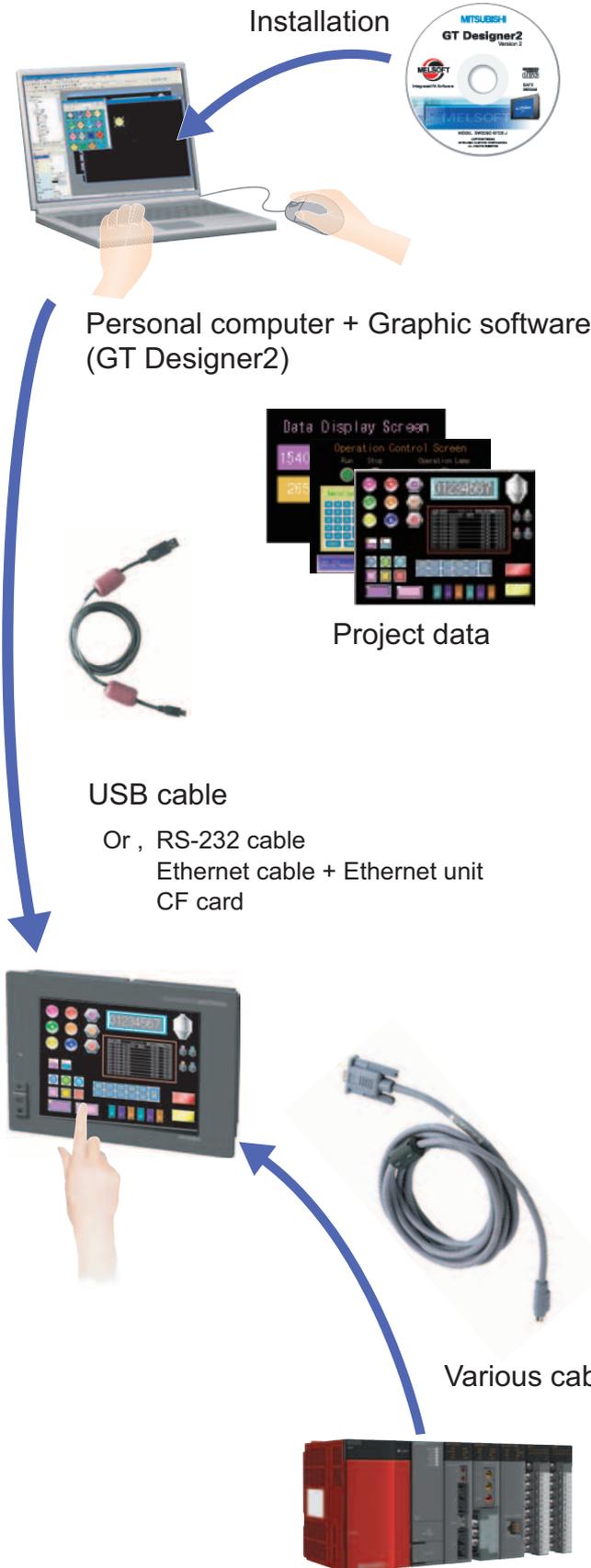
Word device

It is the device (in programmable controller) that sends information in 16 bits (word). A word has 16 bits. Mainly used to process data.

1. GOT tips

2. Necessary equipment
3. Operation principle of GOT

1-4. Preparations before using GOT



STEP 1
Creating project data

Use the monitoring-screen-creating graphic software (GT Designer2) to create project data (screen data, window data, alarm setting and so on) for GOT screen.

STEP 2
Transferring project data

Transfer the completed project data to The GOT via USB cable, RS-232 cable, Ethernet communication unit/cable or CF card.

STEP 3
Trying to operate the GOT

Connect the programmable CONTROLLER CPU to start monitoring.

Prepare the necessary equipment to use GOT.

2-1. Equipment for creating screens



- 1 Personal computer 2 GT Designer2



For details, refer to . . .

GT Designer2 Version□
Basic Operation/Data Transfer Manual (manual number: SH-080529ENG)
GT Designer2 Version□
Screen Design Manual (manual number: SH-080530ENG)

2-2. Equipment for transferring data

When connecting a personal computer and GOT via USB cable



- 1 Personal computer 2 USB cable (GT09-C□□USB-5P) 3 GOT(GT15)



For details, refer to . . .

GT Designer2 Version□
Basic Operation/Data Transfer Manual (manual number: SH-080529ENG)

2-3. Equipment for monitoring operation

Directly connect the GOT to the programmable controller CPU via RS-232 cable



- 1 GOT(GT15) 2 RS-232 cable (GT01-C30R2-6P) 3 Programmable controller (Q series)



Programmable controller can be connected via other methods.

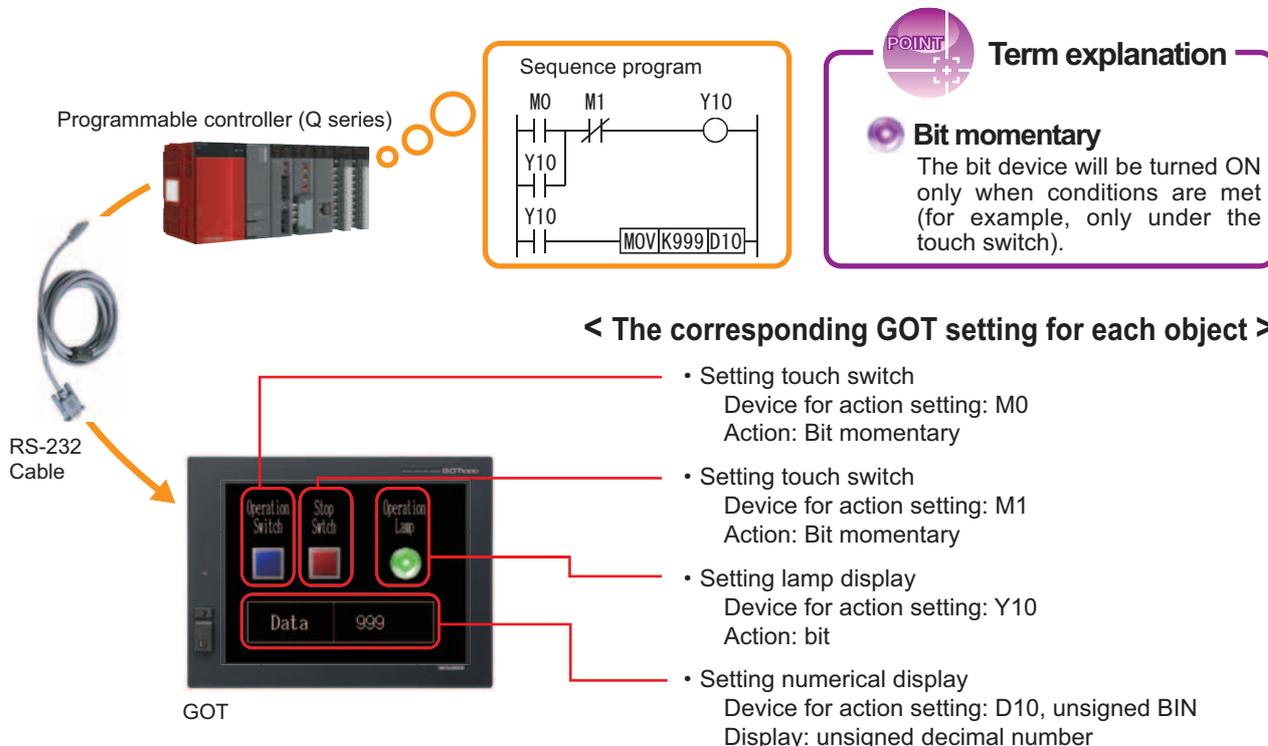


For details, refer to . . .

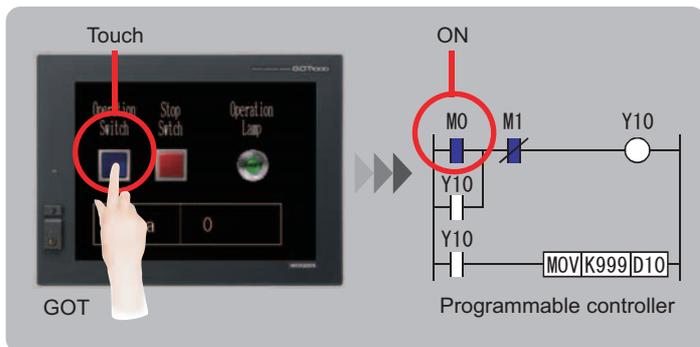
GOT1000 series Connection Manual (manual number: SH-080532ENG)

The actions when connecting GOT and Programmable controller (Q series) will be explained briefly as below.

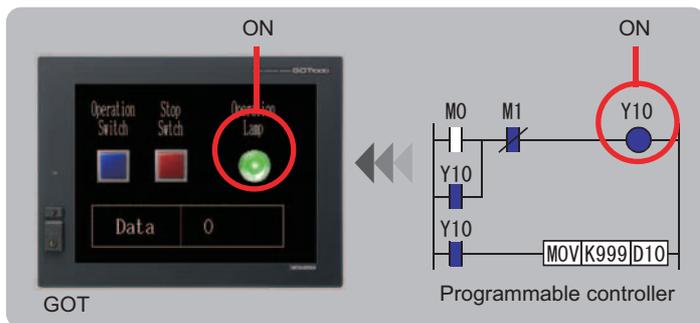
3-1. System example



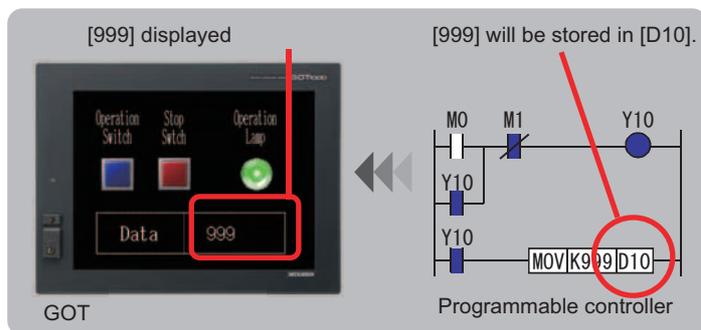
3-2. Actions of GOT and Programmable controller



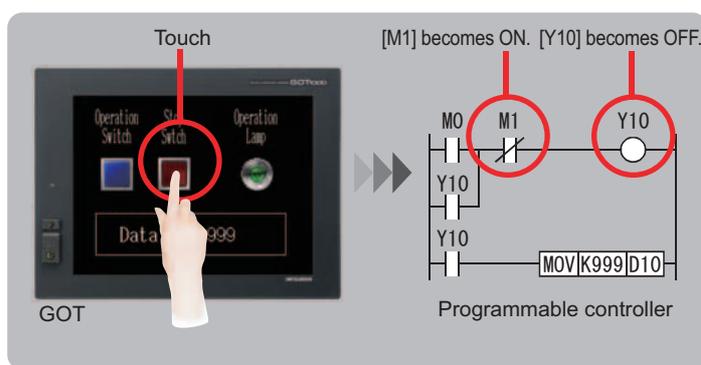
When touching [Operation Switch] on GOT touch switch, the bit device [M0] assigned to the touch switch will be ON.



After the bit device [M0] becomes ON, the bit device [Y10] will be ON. Then, on the GOT lamp display to which the bit device [Y10] is assigned, [Operation lamp] will be ON.



Since the bit device [Y10] becomes ON, [999] will be stored in word device [D10]. Then, the GOT numerical display to which a bit device is assigned will be [999].

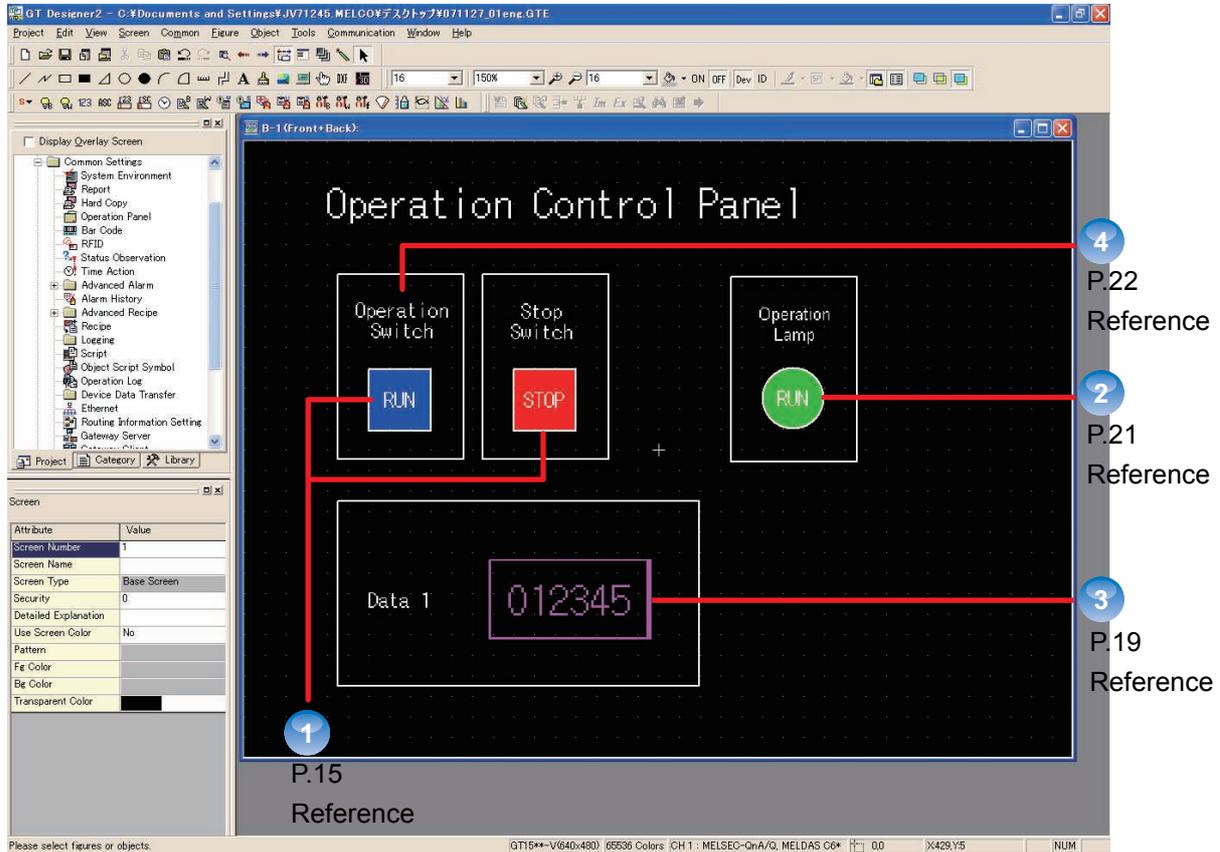


When touching [Stop Switch] on GOT touch switch, the bit device [M1] assigned to the touch switch will be ON. Since the bit device [M1] is the precondition to turn the bit device [Y10] OFF, [Operation Lamp] on lamp display will be OFF.

1. Creating a screen
2. Setting object functions
3. Setting the position of connection
4. Saving project data

1-1. Example of creating a screen

The following is the explanation about the 3 objects (① switch ② lamp ③ numerical display) and the drawing procedure of ④ characters input shown on the screen below.



For details, refer to ...

GT Designer2 Version□
Screen Design Manual (manual number: SH-080530ENG)



Term explanation

Object

For GOT, the factors (such as switches and lamps mentioned above) which can be placed on screen to display actions and set functions are called objects.

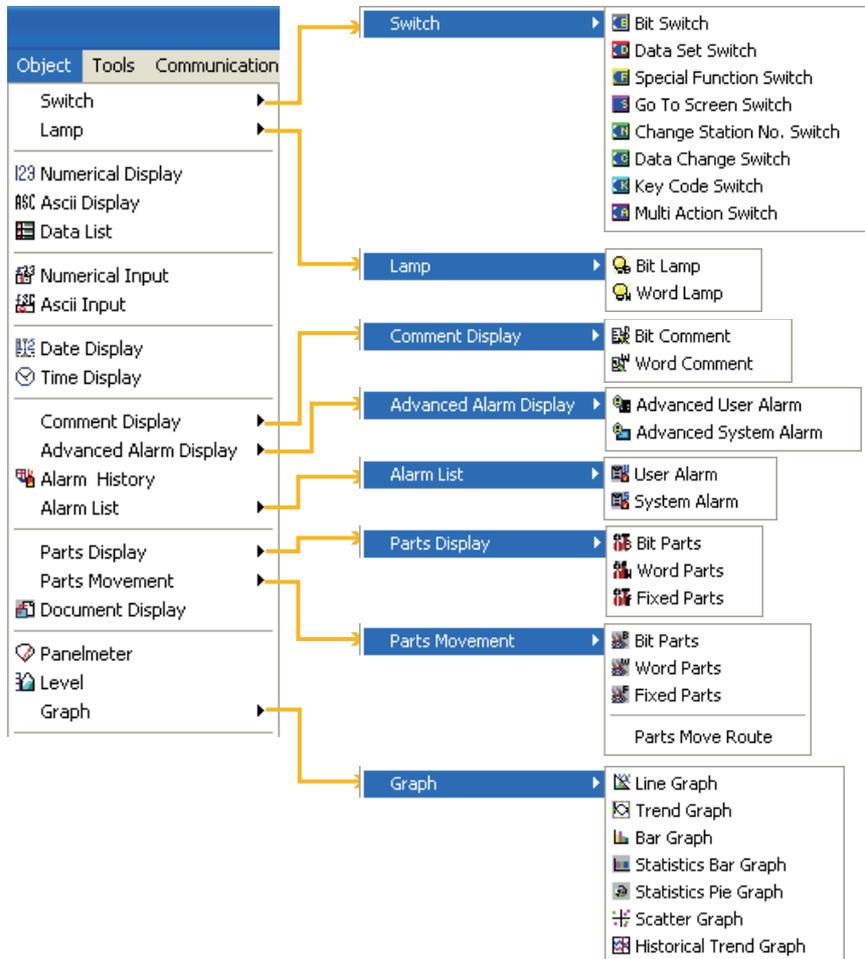
1. Creating a screen

2. Setting object functions
3. Setting the position of connection
4. Saving project data

1-2. Types of objects

The objects can be used in GT Designer2 are listed as below.

[Objects] list



The objects mentioned in this guide are explained as below.

1. Switch

Bit switch
The bit device turns ON/OFF when touching the switch.




ON display OFF display

3. Numerical display

Numerical display
The data stored in the devices of programmable controller (Q series) is displayed.



2. Lamp

Bit lamp
The lamp turns ON/OFF according to bit device's ON/OFF.




ON display OFF display



For details, refer to ...

GT Designer2 Version□
Screen Design Manual (manual number: SH-080530ENG)

1. Creating a screen

2. Setting object functions
3. Setting the position of connection
4. Saving project data

1-3. Creating a new project

● Starting GT Designer2.

When starting the GT Designer2 to create a new project, the system environment setting screens 1~9 will appear as below, select the [Next] button to proceed to a new screen.

The system includes the following items



GOT(GT15)



RS-232 cable
(GT01-C30R2-6P)



Programmable controller(Q series)

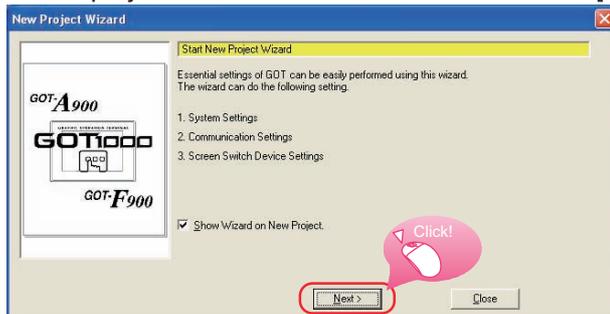
1. Project selection dialog box

Select [New].



2. Starting screen of the project creation wizard

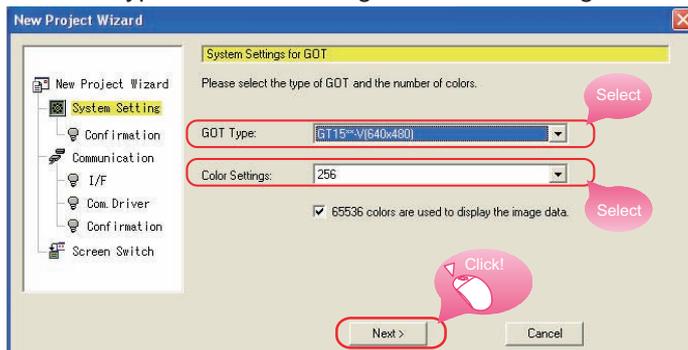
Use project creation wizard to create. Click the [Next] button.



A new project can also be created without using wizard.

3. System setting screen of GOT

Select type and color setting for the GOT being used.



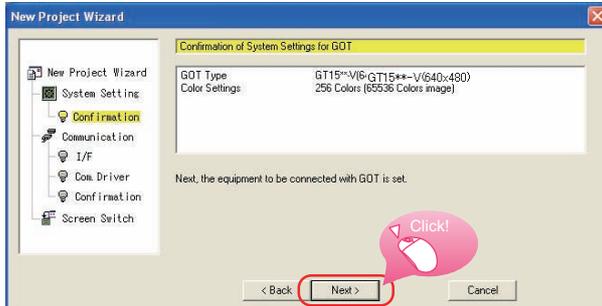
- ▶ GOT type:[GT15**-V(640×480)]
- ▶ Color settings:[256 colors]

1. Creating a screen

2. Setting object functions
3. Setting the position of connection
4. Saving project data

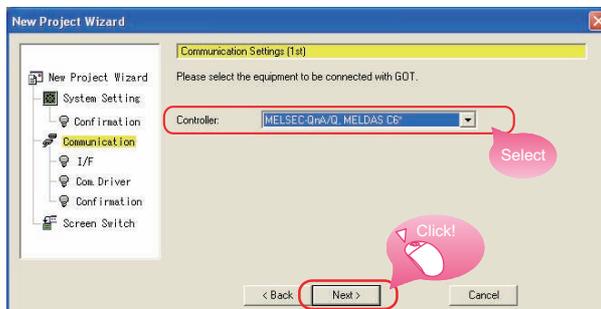
4. Confirmation screen for system setting of the GOT

When the following screen appears, click the [Next] button after checking the displayed contents are OK.



5. Setting screen for controller

Select the controller of GOT.



- ▶ Controller: [MELSEC-QnA/Q MELDAS C6*]

6. I/F setting screen for controller

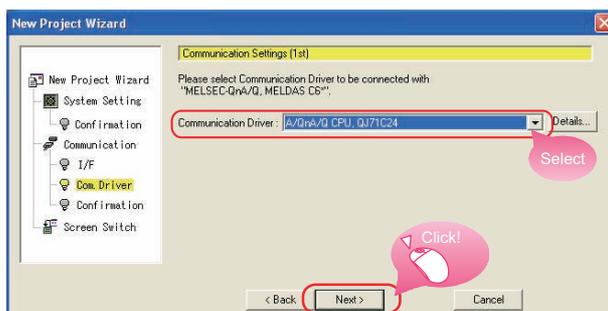
Select the connection I/F for the controller in [5].



- ▶ I/F: [Standard I/F (standard RS-232)]

7. Setting screen for communication driver of the controller

Select communication driver for the controller in [5].



- ▶ Communication driver:[A/QnA/Q CPU, QJ71C24]



For details on communication driver, refer to ...

GT Designer2 Version□
Basic Operation/Data Transfer Manual
(Manual number: SH-080529ENG)

GOT1000 series Connection Manual
(Manual number: SH-080532ENG)

1. Creating a screen

2. Setting object functions
3. Setting the position of connection
4. Saving project data

8. Confirmation screen for controller setting

When the following screen appears, click the [Next] button after checking the displayed contents are OK.



9. Setting screen for screen switch device

Set [Switch Device] in [Base Screen].



▶ Base Screen: [GD100]



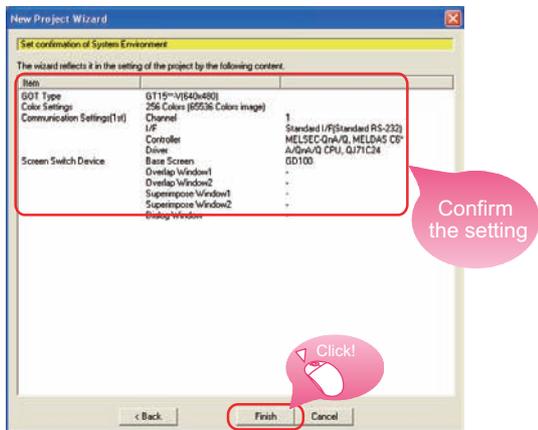
This setting is in accordance with the system configuration of this guide.



For details on the setting, refer to . . .

GT Designer2 Version□
Basic Operation/Data Transfer Manual
(Manual number: SH-080529ENG)

The following screen appears after the setting is finished.



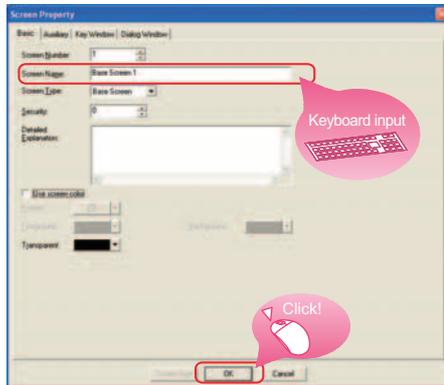
The setting for a new project creation is completed.

Soon after this, the setting window for properties of the new screen will appear.

1. Creating a screen

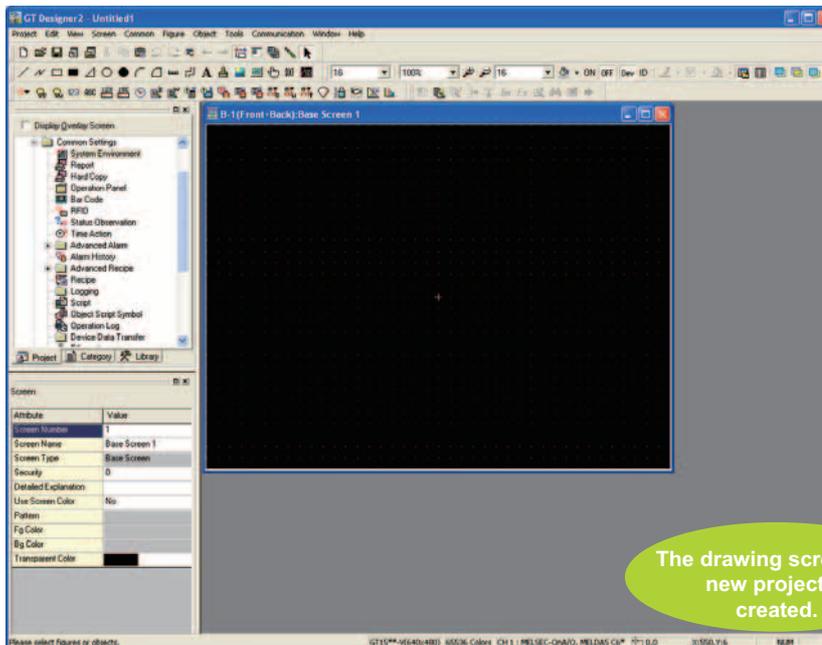
2. Setting object functions
3. Setting the position of connection
4. Saving project data

Set properties of the screen.
The title can be changed as necessary.



* The left screen shows an example for setting the title as [Base Screen 1].

When the editing screen of GT Designer2 appears, the base screen 1 is created.



For details, refer to ...

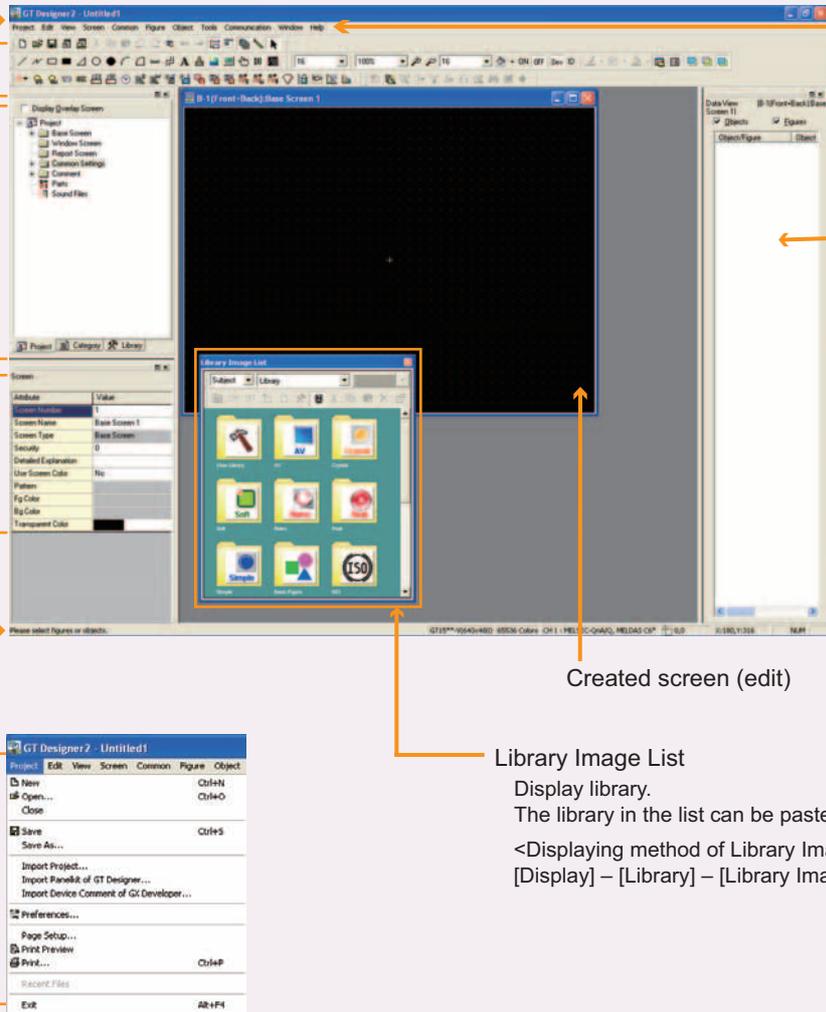
GT Designer2 Version□
Basic Operation/Data Transfer Manual (manual number: SH-080529ENG)

The guide explains how to create a screen specifically from page 15.

1. Creating a screen
2. Setting object functions
3. Setting the position of connection
4. Saving project data

The configuration of a GT Designer2 screen

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



Title bar →

Menu bar →

Toolbar →

Workspace →
Setting on the overall project such as created screen and common settings are displayed in tree.

Property sheet →
Attributes of selected screen, objects and figures are displayed. Settings can be made here.

Status bar →

Drop-down menu →

Menu bar →

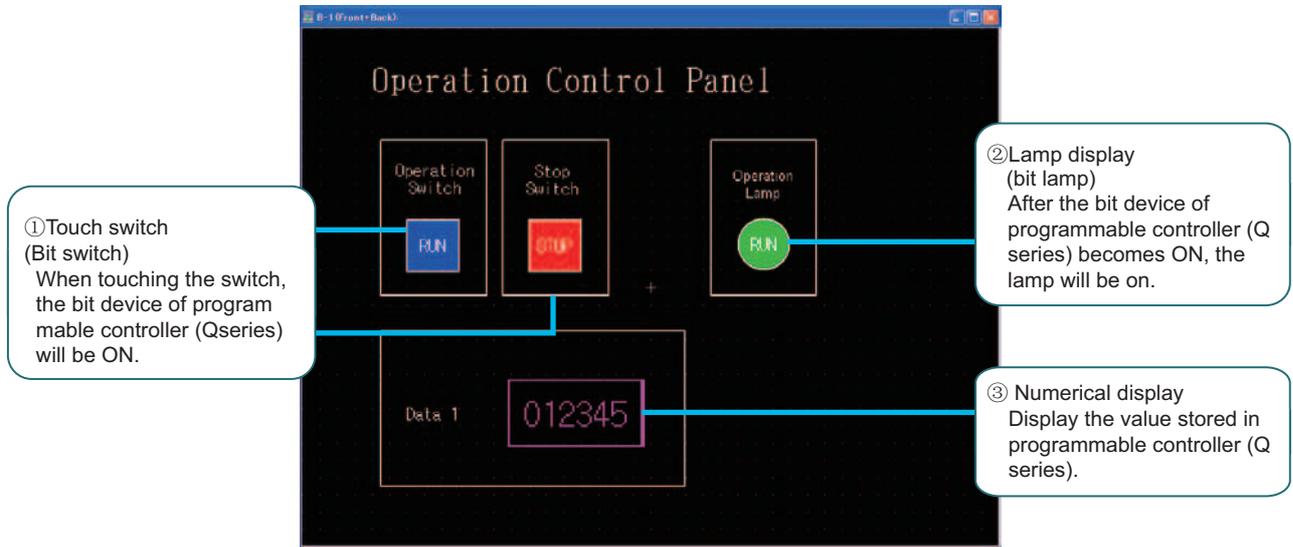
Data view →
All object functions and figures on the screen are displayed in a list.
<Displaying method of data view>
[Tools]-[Data View]

Created screen (edit) →

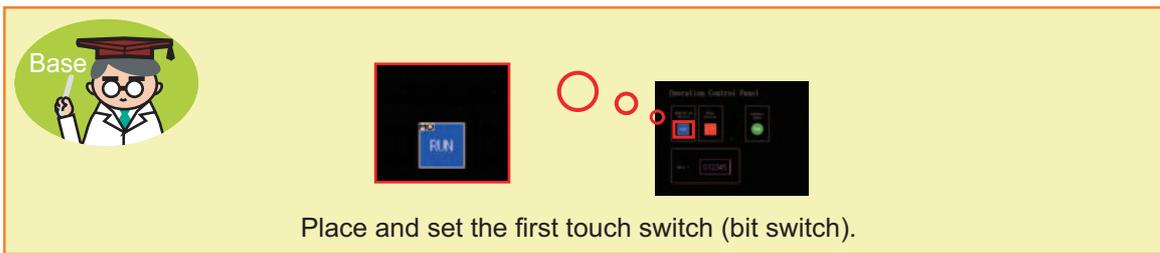
Library Image List →
Display library.
The library in the list can be pasted on screen.
<Displaying method of Library Image List >
[Display] – [Library] – [Library Image List]

1. Creating a screen
- 2. Setting object functions**
3. Setting the position of connection
4. Saving project data

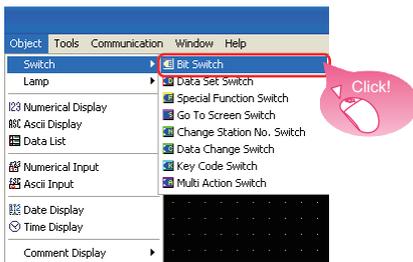
The guide explains how to set the following act functions for each object. Meanwhile, the methods to set the characters on the placed project will be explained.



2-1. Setting switches



Step 1 Select [Object]-[Switch]-[Bit Switch] from the menu.



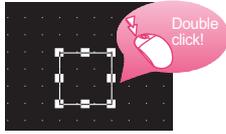
Step 2 Place the switch. The cursor will change to a cross shape. Move the cursor to the proper position and then click. (After placement, right click to exit arrangement mode.)



STEP 1

1. Creating a screen
- 2. Setting object functions**
3. Setting the position of connection
4. Saving project data

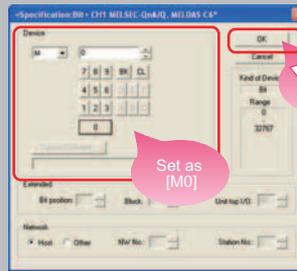
Step 3 Set functions for the placed switch.
Double click the switch.



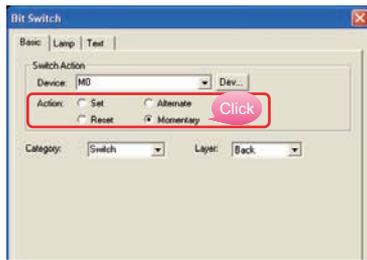
[Dialog box] and [Tab]

A dialog box is the window used to make settings. The setting screen can be switched by clicking a tab in the dialog box.

Step 4 A dialog box appears. Set devices on basic page.



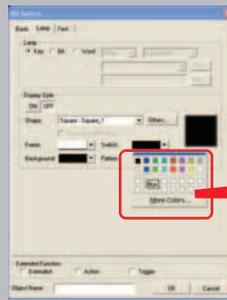
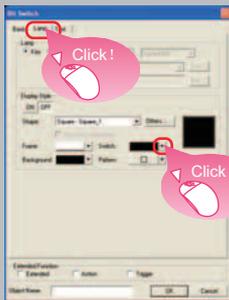
Step 5 Set [Action] for devices.



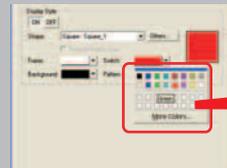
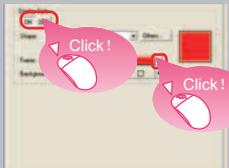
▶ Action: click bit momentary (M)

Step 6 Switch the screen to lamp tab to set the color of the switch.

When the switch is OFF



When the switch is ON



1. Creating a screen
2. Setting object functions
3. Setting the position of connection
4. Saving project data

Step 7 Switch the screen to text tab to set the text in switch.

Step 8 The setting when switch OFF is completed. Copy the setting to the screen under switch ON.



[Copy OFF→ON]

If the settings of ON and OFF display are the same, when selecting **All Settings** or **Text Only**, the copied contents will be different as below.

All Settings

button : copies text, style, font, size and position to edit text.

Text Only

button : copies text only.



End

Setting of the first switch is completed.

Setting contents of the first switch

Device : M0
 Action : bit momentary
 Color of the switch : OFF ■ (blue), ON ■ (green)
 Text : Run

Review



Term explanation

[Action] in the action setting



Bit SET

(When touching the switch) The bit will be ON.



Bit RST

(When touching the switch) The bit will be OFF.



Bit ALT

Reverse the current status of the bit device (OFF ⇄ ON).
 When touching the switch, the bit will be switched to ON or OFF.

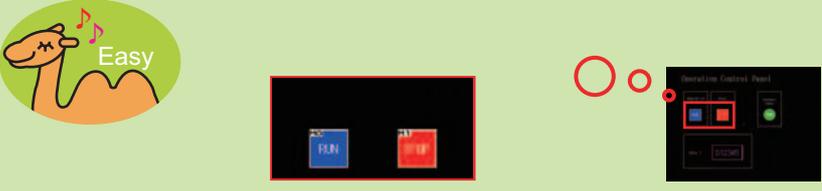


Bit momentary

The bit device will be ON only when conditions are met (for example, only when touching switch).

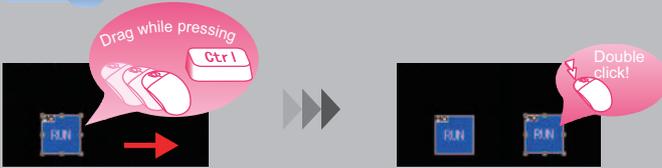
Copying the projects to make drawing simple

By copying the placed objects, the second switch can be drawn easily.

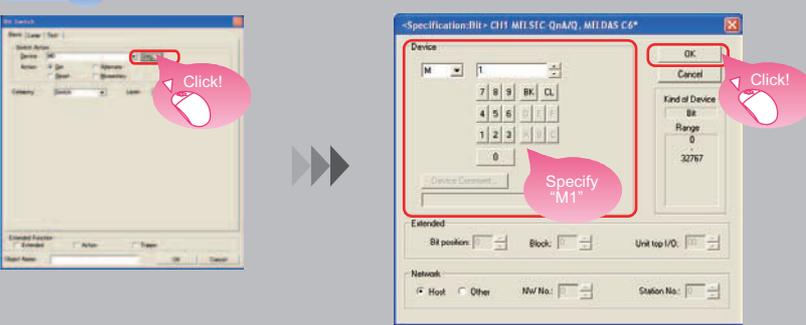


Copy [RUN] switch to place and set [STOP] switch.

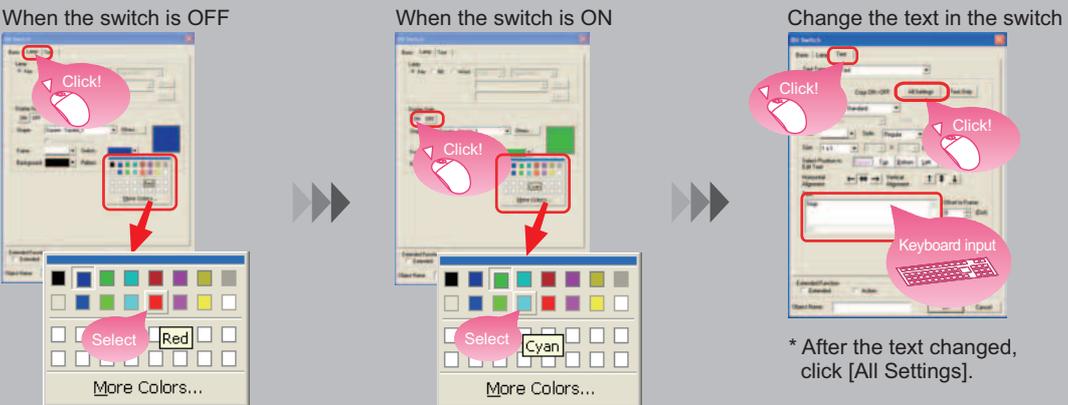
Step 1 Select [RUN] switch, copy the switch and then double click it.



Step 2 A dialog box appears. Change the device to [M1].



Step 3 Change the color and the characters of the switch by taking the steps in P16 to P17.



When the switch is OFF

When the switch is ON

Change the text in the switch

* After the text changed, click [All Settings].



End

Setting of the switch (the second one) is completed.

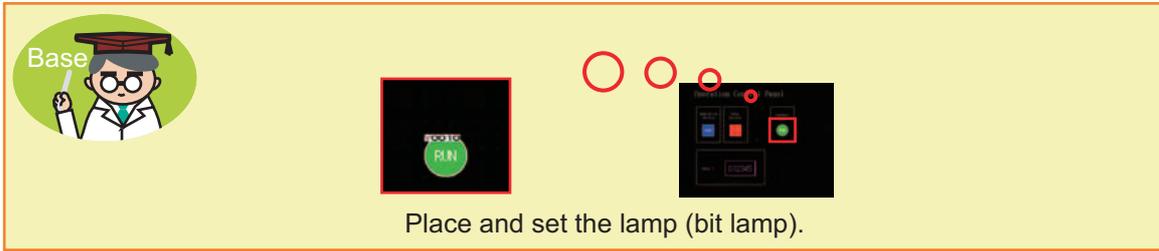
Setting contents of the switch (the second one)

Device : M0
 Action : bit momentary
 Color of the switch: OFF ■ (red), ON ■ (Cyan)
 Text : Stop

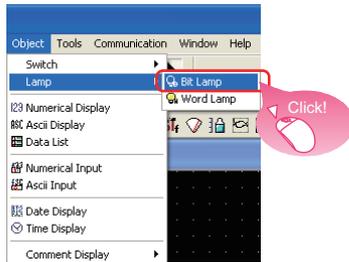


1. Creating a screen
2. Setting object functions
3. Setting the position of connection
4. Saving project data

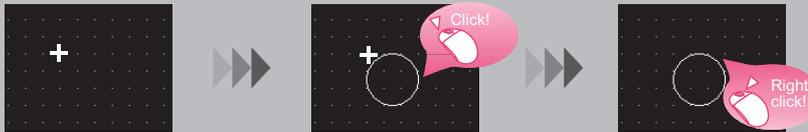
2-2. Setting lamps



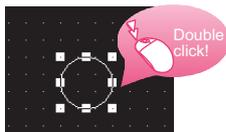
Step 1 Select [Object]-[Lamp]-[Bit Lamp] from the menu.



Step 2 Place the lamp. The cursor will change to a cross shape. Move the cursor to the proper position and then click. (After placement, right click to exit arrangement mode.)



Step 3 Set functions for the placed lamp. Double click the lamp.



Step 4 A dialog box appears. Set devices on basic page.

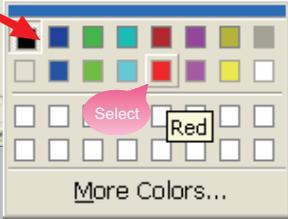
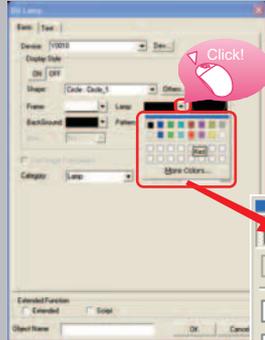


STEP 1

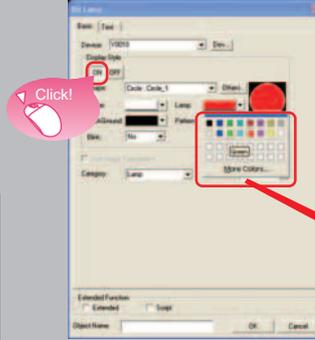
1. Creating a screen
2. Setting object functions
3. Setting the position of connection
4. Saving project data

Step 5 Set the color of the lamp.

When the lamp is OFF

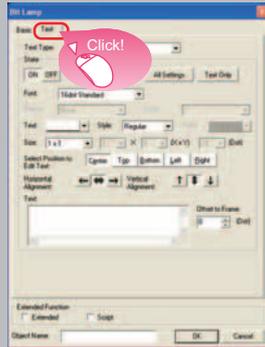


When the lamp is ON

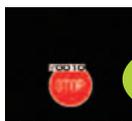
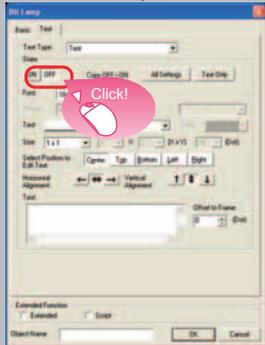


Step 6 Switch to text tab to set text in the lamp.

When the lamp is ON



When the lamp is OFF



End

Setting of the lamp is completed.

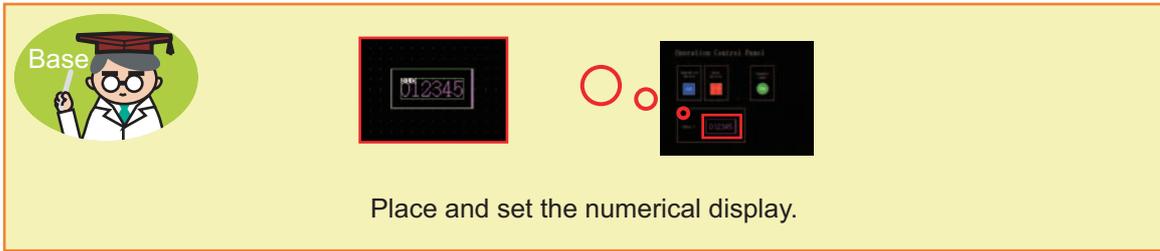
Setting contents of the lamp

Device : Y10
 Color of the switch: OFF (red), ON (green)
 Text : OFF→STOP, ON→RUN

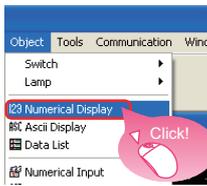


1. Creating a screen
2. Setting object functions
3. Setting the position of connection
4. Saving project data

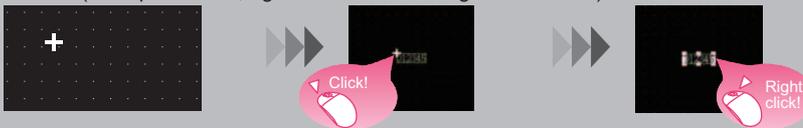
2-3. Setting numerical display



Step 1 Select [Object] - [Numerical Display] from the menu.



Step 2 Place the numerical display. The cursor will change to a cross shape. Move the cursor to the proper position and then click. (After placement, right click to exit arrangement mode.)



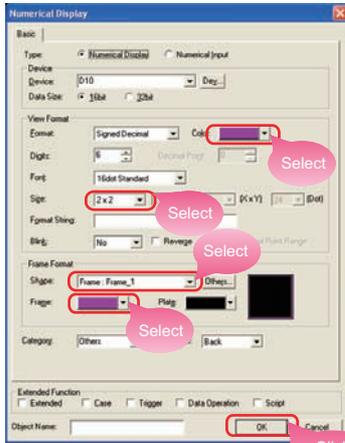
Step 3 Set functions for the placed numerical display. Double click the numerical display.



Step 4 A dialog box appears. Set devices.



Step 5 Set the color, size, frame figure and frame color of numerical display.



End

Setting of the numerical display is completed.

Setting contents of the numerical display

- Device: D10
- Color: ■ (purple)
- Size: 2x2
- Shape: Frame: Frame_1
- Frame: ■ (purple)

Review

2-4. Characters input

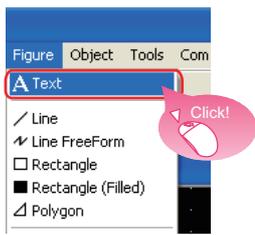
Base

Operation Control Panel

○ ○ ○

Draw the text above.

Step 1 Select [Figure] – [Text] from the menu.



Step 2 The cursor will change to a cross shape. Move the cursor to the text drawing position and then click.



Introduction

STEP1
Creating project data

STEP2
Transferring project data

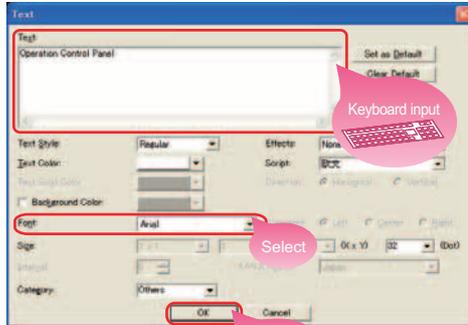
STEP3
Trying to operate the GOT

Appendix
More functions

1. Creating a screen
2. Setting object functions
3. Setting the position of connection
4. Saving project data

Step 3 Input the text to be drawn, and select font.

After pressing , text will appear on the base screen.



Setting contents of the text

Text: Operation Control Panel
Font: 6dot HQ Mincho



With the same procedure . . .

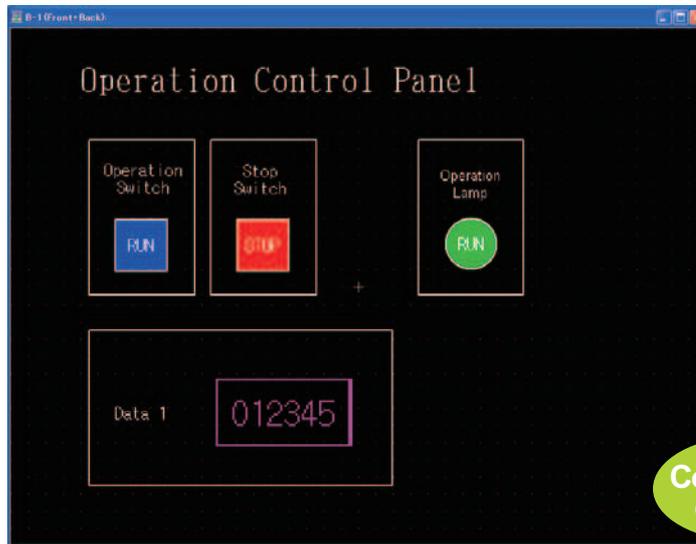
Referring to the setting procedure to place text on the objects, such as the switch, the lamp and the numerical display.

Operation Control Panel

End

Plotting for base screen is completed.

An example of the screen created through the above procedure is shown as below.

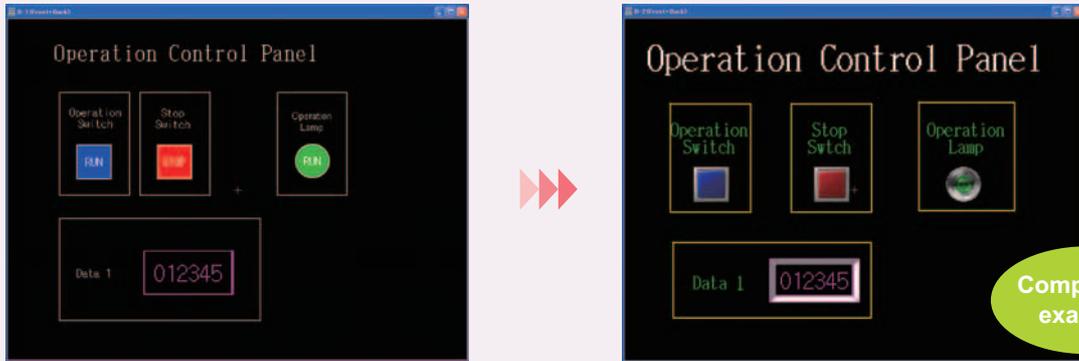


1. Creating a screen
- 2. Setting object functions**
3. Setting the position of connection
4. Saving project data

The guide explains how to create an exquisite screen.

Create an exquisite screen by using the library and changing the font.

- ① Make the screens of objects exquisite Using the library
- ② Make the text exquisite Using fonts
- ③ Make the screen distinctive Adding frames



Completion example

① Using the library

Change the Shape by using the library.

Step 1 After selecting the bit switch [RUN], click ▼ of shape in property list. The image list appears.

Step 2 Select [Library] list in image list of figure. Click ▼ of [Library] and select figure type, then select the parts to be changed.

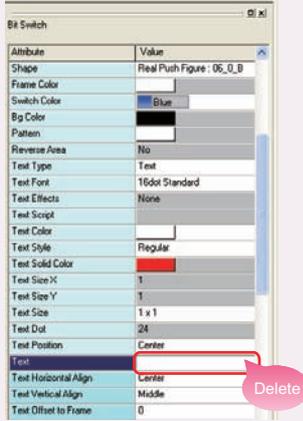
* As an example, [Real Push Figure] is selected here.

1. Creating a screen
2. Setting object functions
3. Setting the position of connection
4. Saving project data

Step 3

Delete the text input for the switch from property list.

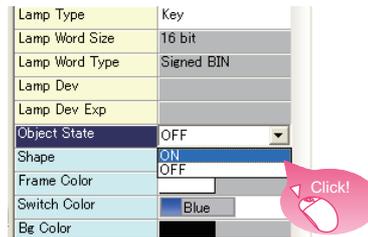
* No need to execute the operation when the text of switch are supposed to be saved.



With the same procedure...

When the status becomes ON, change the [Operation Switch] under ON status by taking

Step 1 ~ Step 3.



Click the [Status] in property list and select [ON].

② Using fonts



Use fonts to change text.

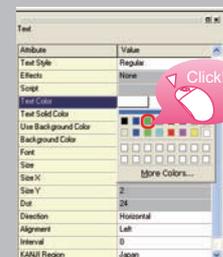
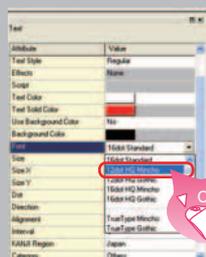
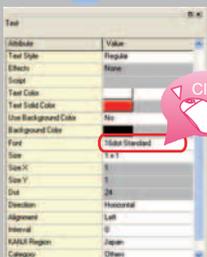
Step 1

Select the text of [Operation Switch].



Step 2

Change the text font and color of [Operation Switch] in property list.



Select [12dot HQ Mincho]

Select [Sap green]



End

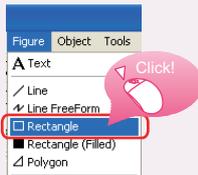
1. Creating a screen
2. Setting object functions
3. Setting the position of connection
4. Saving project data

③ Adding the frame

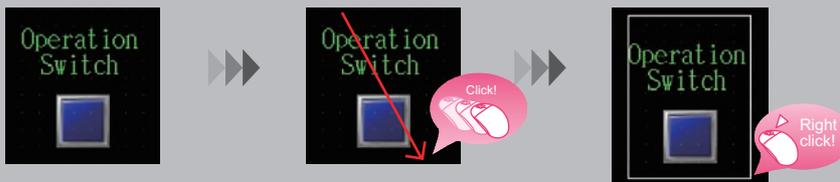


Enclose the switch in the frame.

Step 1 Draw the figure frame and select [Figure]- [Rectangle] from the menu.



Step 2 The cursor will change to a cross shape. Move it to the starting position of the figure, and then drag it to draw figure. (After placement, right click it to exit configuration mode.)



Step 3 Change the setting of figure frame and double click the frame.



Step 4 Change the width and color of the lines.



End



With the same procedure . . .

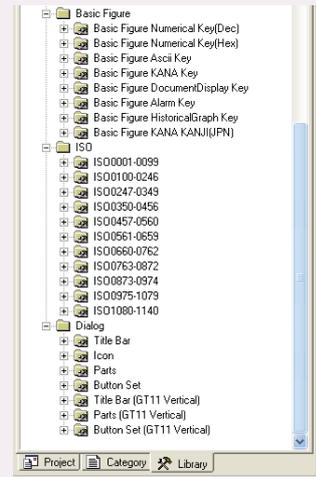
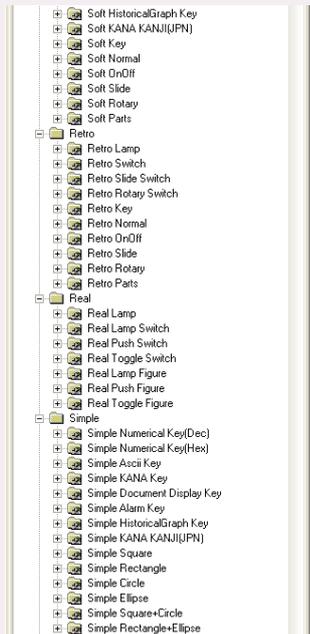
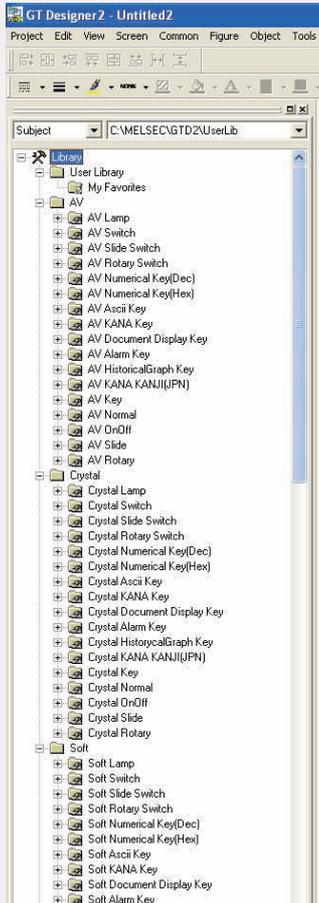
Referring to the setting procedure, change the settings of stop switch, lamp display under operation, and so on, and create the same screen as the completed example.

Using the library

The library introduced on page 23 has various figures.

The figures listed by subject are shown as following. (The figures can also be listed by function).

Listing the library by subject



The example for setting GOT 1000 series tool library (lamp • switch)



The necessary parts can be downloaded from “MELFANSweb” page of the relevant information website of Mitsubishi electric FA equipment.

You can download them after registering as a member of FA-LAND (free).

The address for downloading GOT 1000 series library

<http://www2.mitsubishielectric.co.jp/got/faland/download/parts/index.html>

Use [Communication Settings] of GT Designer2 to set GOT communication interface.

Step 1 Display [Communication Settings] window.

There are two methods to recall [Communication Settings] menu.

- ① Click [Common]-[System Environment]
- ② Double click [System Environment] in work space

Step 2 Check if the setting contents are the same as those set in project creation wizard of P10 to P12. Click **Detail Setting...** to change detail setting of the driver.

Step 3 The screen of detail setting for the driver appears. Make a selection in the pull-down menu to change baud rate.

* If there is no need to change the detail setting of the driver, this operation is unnecessary.

End

For details, refer to ...

GT Designer2 Version□
 Screen Design Manual (manual number: SH-080530ENG)

Introduction

STEP1
Creating project data

STEP2
Transferring project data

STEP3
Trying to operate the GOT

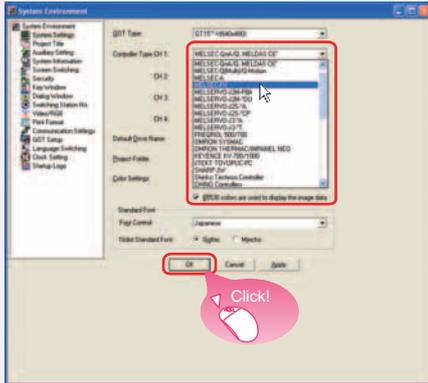
Appendix
More functions

Change the connection target!

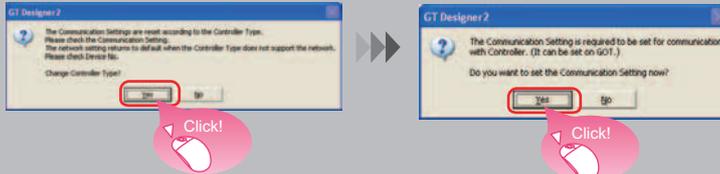
The operations explained in this guide are taken under the condition that RS232 and the programmable controller (Q series) are of direct CPU connection. When connecting it with other equipment than the programmable controller (Q series) or changing the connection methods, please make the changes according to the procedure as below.

* The guide changes the connection position to direct CPU connection via [MELSEC-FX] and [RS232], and then takes this as example to explain.

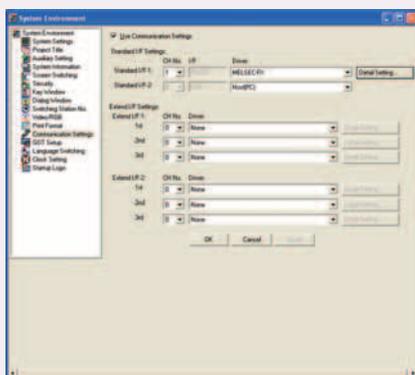
Step 1 The same as step 1 in the previous page. Select [Common]-[System Environment] to display [System Environment] window. After the [System Environment] window appears, change the CH1 setting of [Controller Type] to the desired equipment, and then click [OK] button.



Step 2 The following window appears. Select [Yes].



Step 3 [Communication Settings] screen appears. Check if the standard I/F-1 is the same with the setting in Step 1.



For details, refer to . . .

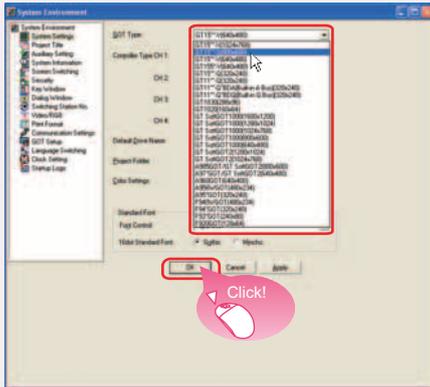
GT Designer2 Version□
Screen Design Manual (manual number: SH-080530ENG)

Change GOT type!

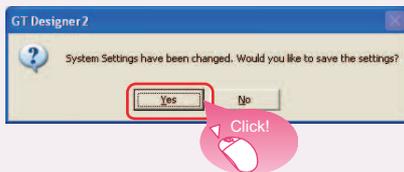
You can change the GOT type in the setting of project according to the following procedure.

* The guide changes the GOT type from [GT15**-V(640×480)] to [GT15**-S(800×600)], and then takes this as example to explain.

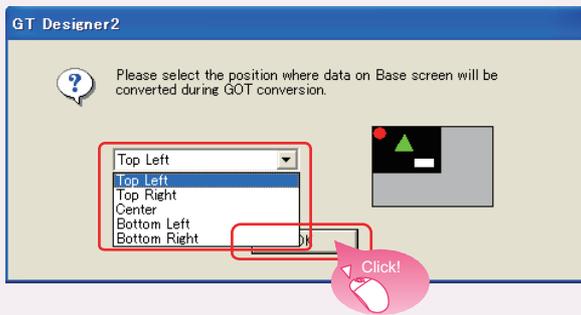
Step 1 The same as step 1 of page 28. Select menu [Common]-[System Environment] to display [System Environment] window. After the [System Environment] window appears, please change the setting of [GOT Type] to the desired equipment, and then click [OK] button.



Step 2 The following window appears. Select [Yes].



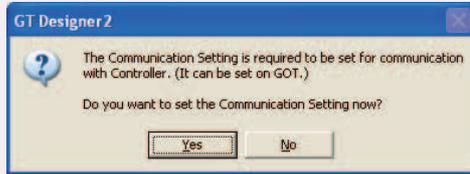
Step 3 The screen size will be larger as the GOT type changes, so the base screen needs to be placed. Select the position to place and then click .
* When the screen size does not become larger as the GOT type changes, this operation is unnecessary.



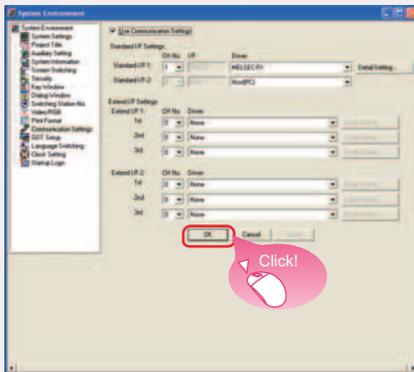
Step 4 The GOT type is changed.



Step 5 The following dialog box appears. Select [Yes] to set the the Communication Setting and select [No] to skip.



Step 6 The [Communication Settings] screen appears. Click after changing the setting contents.
* If [No] is selected in **Step 5**, this operation is unnecessary.

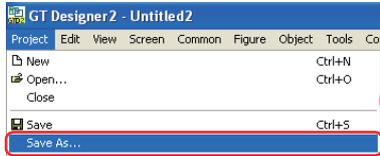


For details, refer to ...

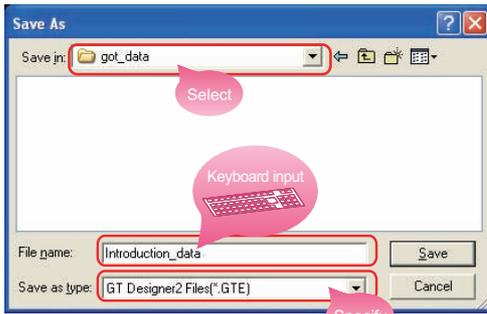
GT Designer2 Version□
Screen Design Manual (manual number: SH-080530ENG)

Save the created project data.

Step 1 Select [Save As].



Step 2 Press the [Save] button after selecting or inputting the saving address and the file name.



End

▶ Saving address: [GOT data]



saving address

The name of the folder used in this guide is "GOT data". Any folder name and saving address can be set.

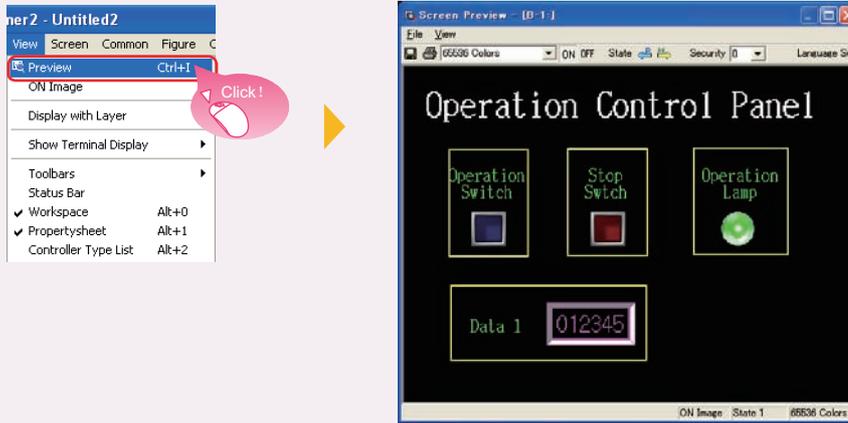
▶ File name: [Introduction data]

▶ File type : [GT Designer2 Files (*.GTE)]

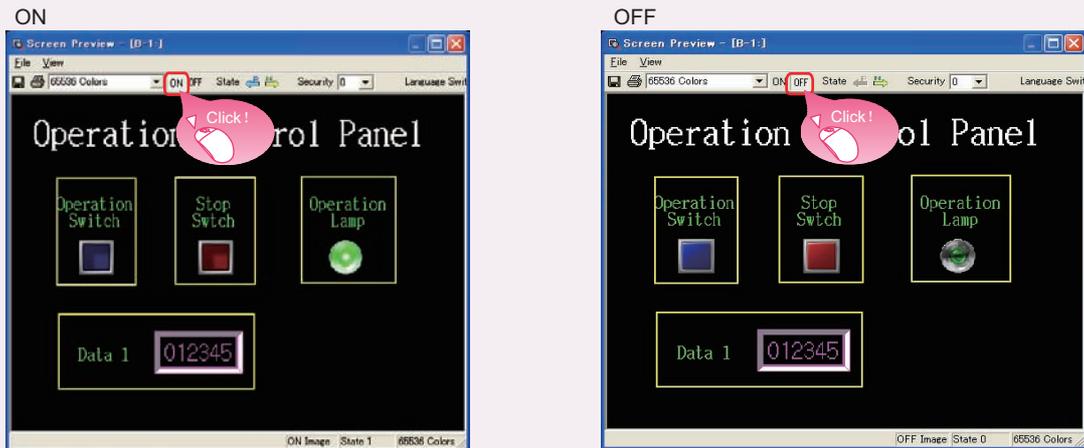
Display preview

The created screen data images can be checked by preview.

Step 1 Select [View]-[Preview] from the menu.



Step 2 Switch the [State] in screen preview to check the ON and OFF screen status respectively.



Connecting personal computer and GOT



* To make USB communication with GOT, the USB driver must be installed.

The data can be transferred by connection methods other than USB cable or by using CF card.



For details, refer to . . .

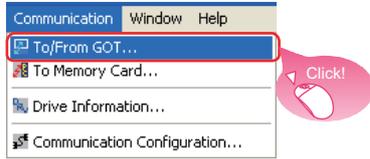
GT Designer2 Version□
Basic Operation/Data Transfer Manual (manual number: SH-080529ENG)

1. Connecting personal computer and GOT
2. Transferring data
3. Connecting GOT and programmable controller

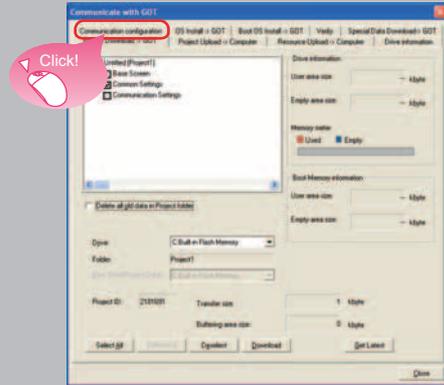
2-1. Setting communication between personal computer and GOT

Set the communication that is used to transfer data to GOT by personal computer.

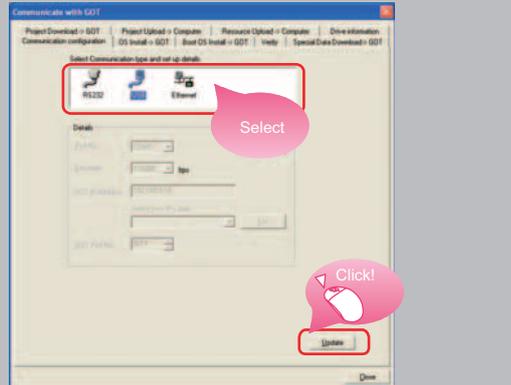
Step 1 Select [To/From GOT] in the menu.



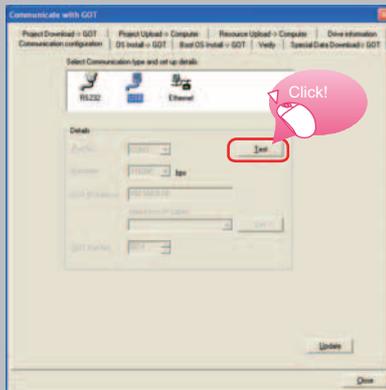
Step 2 Set the communication for the personal computer transferring data to GOT.



Select the connection method, and the click after it changed.



Step 3 Test the communication to check the personal computer is correctly connected with GOT.



When the personal computer is correctly connected with GOT, the above dialog box will appear.

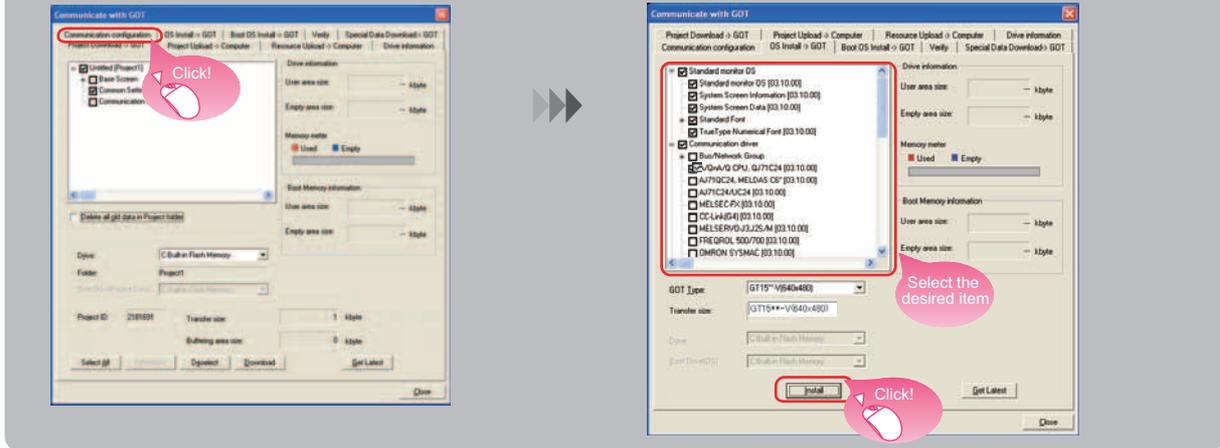
If errors appear, please check the actual connection method and setting contents.

End

2-2. Installing OS

Install standard monitor OS, communication driver, extended function OS and option function OS in GOT. The settings mentioned in this guide do not belong to extended functions or option functions, so only the standard monitor OS and communication driver OS will be selected to install.

Step 1 Install standard monitor OS and communication driver.



Standard monitor OS : [All Items]
 Communication driver: [A/QnA/QCPU, QJ71C24]



For details of OS and communication driver, refer to . . .

GT Designer2 Version□ Basic Operation/Data Transfer Manual
 (Manual number: SH-080529ENG)

GOT1000 Series Connection Manual
 (Manual number: SH-080532ENG)

Step 2 Execute the installation according to the displayed windows.

* Never turn off the power during transferring data.



End

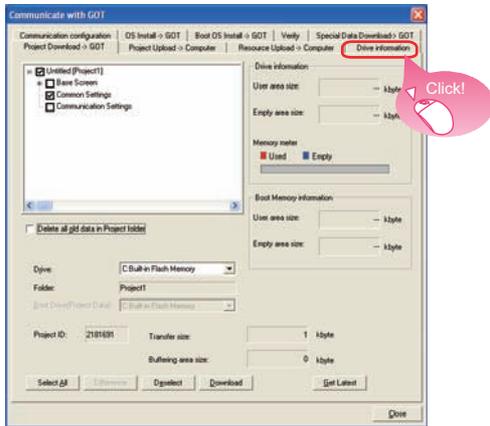


Installation of OS

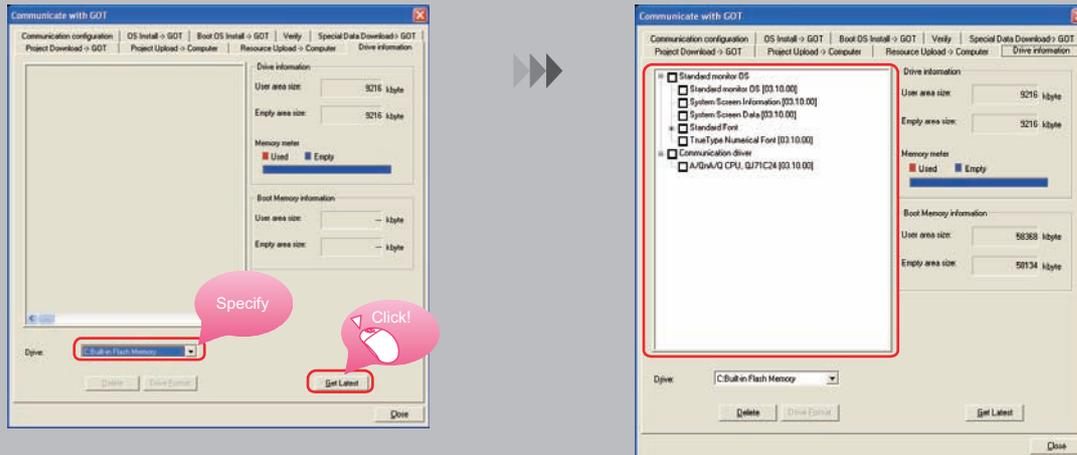
The OS used to monitor for GOT or communication driver is not installed in GOT. So, this operation should be done only once before monitoring for the first time.

Check OS is correctly installed in GOT.

Step 1 Click [Drive information] tab.



Step 2 In this guide, the standard monitor OS and communication driver are installed in [Drive C]. Select the drive name as [C: Built-in flash memory], and click it for details.



End

Check it is the same as the installation in **Step 1** of page 36. (Standard monitor OS, communication driver)

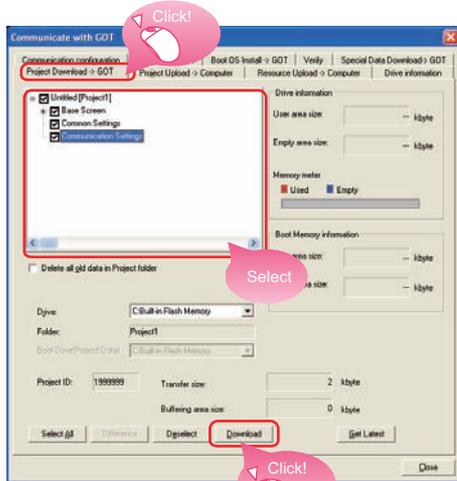
- Standard monitor OS
- Standard monitor OS [03.10.00]
- System Screen Information [03.10.00]
- System Screen Data [03.10.00]
- Standard Font
- TrueType Numerical Font [03.10.00]
- Communication driver
- A/QnA/Q CPU, QJ71C24 [03.10.00]

*: The version is GT Design2 Version 2.69X.

2-3. Downloading project data

Download project data to GOT.

Step 1 Click [Project Download→GOT] tab, and check all displayed project data to start downloading.



Step 2 Execute the installation according to the displayed windows.



End



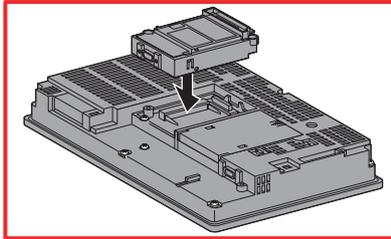
For details, refer to ...

GT Designer2 Version□
 Basic Operation/Data Transfer Manual (manual number: SH-080529ENG)

* When installing communication unit or connecting programmable controller on GOT, always shut off power supply used by the system beforehand.

3-1. Checking the communication unit

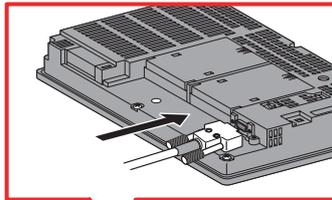
The communication unit can be installed in the GOT extension unit connector when necessary.



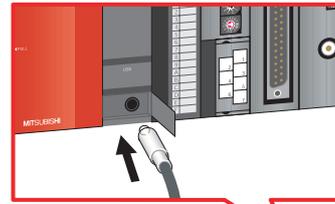
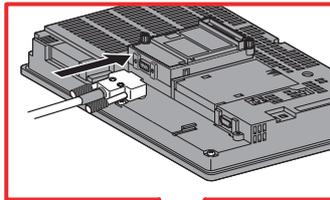
3-2. Connecting programmable controller

Use cable to connect GOT and programmable controller. For the necessary equipment, refer to the description on page 4.

When connecting the cable to RS-232 interface



When connecting the cable to RS-232 communication unit



Connecting to RS-232 interface
or
RS-232 communication unit



Connecting
to CPU
module



For details, refer to . . .

GOT1000 Series Connection Manual (manual number: SH-080532ENG)

3-3. Checking the communication between GOT and programmable controller

● I/O check

I/O check is a function to check whether the communication between GOT and programmable controller is normal or not.

If the check is normally completed, the settings of communication interface and the connection of cable are correct.

Step 1 Display main menu of utility.
Touch upper left corner of the screen, or touch both upper left and upper right corners simultaneously. (*)

- *: The touching position changes according to types of GOT.
[The factory setting for the touching position]
 - GT1595: Touch the upper left corner of GOT screen
 - GT1585, GT157□, GT156□, GT155□: Touch the upper left & right corners of GOT screen at the same time
- *: The touching position can be changed through [Common]-[System Environment]-[GOT Setup] of the drawing software.



For details, refer to . . .

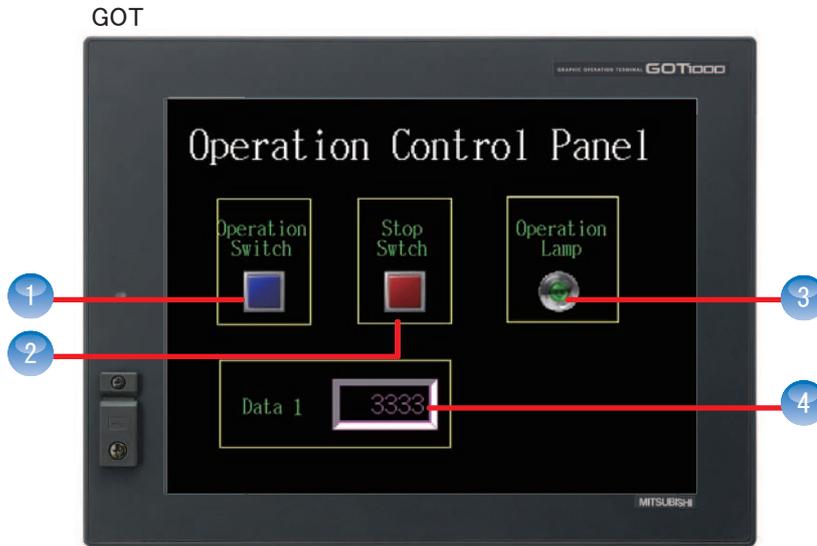
GT Designer2 Version□
Screen Design Manual (manual number: SH-080530ENG)

Step 2 Select [Debug & self check]-[Self check] from the menu.

1. Displaying the created screen

2. Pressing the Operation switch
3. Pressing the Stop switch

Turn on the power of GOT.
The screen created is displayed on GOT.



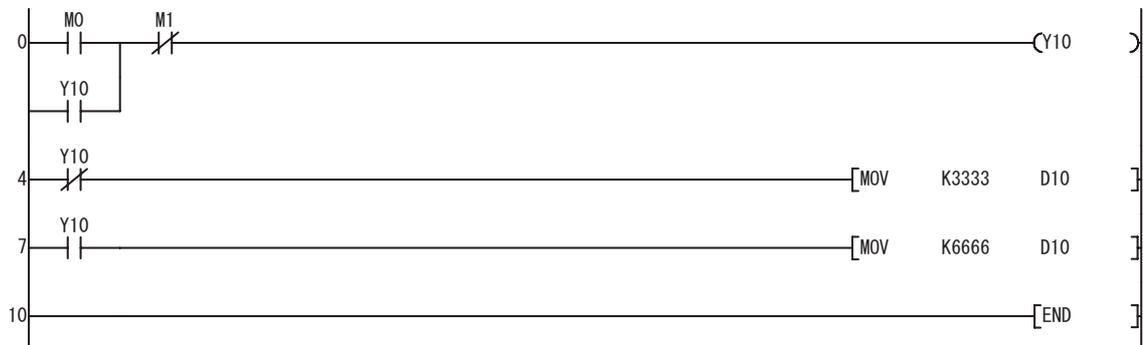
The actions of the set objects are as below.

- 1 Operation Switch . . . After touching, starts operating.
- 2 Stop Switch . . . After touching, stops operating.
- 3 Operation Lamp . . . When operating, lights up the lamp.
- 4 Numerical Display . . . Displays the numerical values stored in programmable controller.

The action images of every object will be explained from the next page.

* The sequence program that drives the programmable controller of the GOT screen on this page is the same as the program explained on the previous page.

Sequence program



For details, refer to . . .

GT Designer2 Version□
Screen Design Manual (manual number: SH-080530ENG)

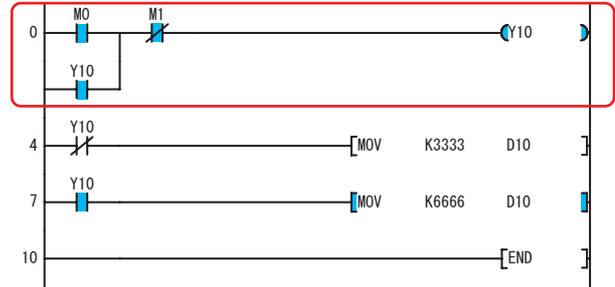
STEP 3

Trying to operate the GOT

1. Displaying the created screen
2. Pressing the Operation switch
3. Pressing the Stop switch



GOT: Touch the Operation Switch.

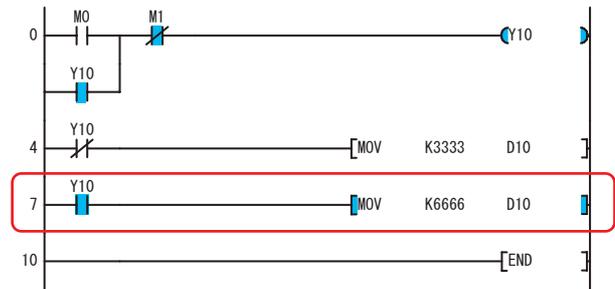


Sequence program:

The device M0 becomes ON, so the device Y10 also becomes ON.



GOT: The Operation Lamp becomes ON.



Sequence program:

The device Y10 becomes ON, so the value [6666] is stored in the device D10.



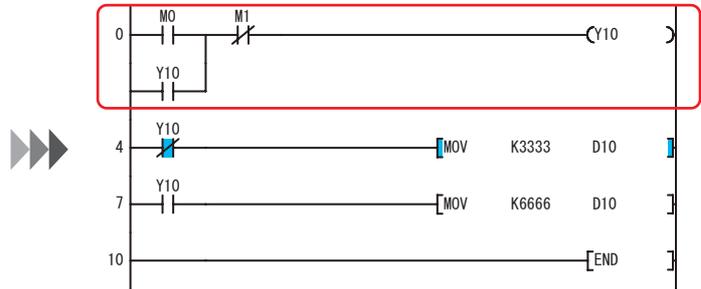
GOT: The numerical display is [6666].

STEP 3

1. Displaying the created screen
2. Pressing the Operation switch
3. Pressing the Stop switch



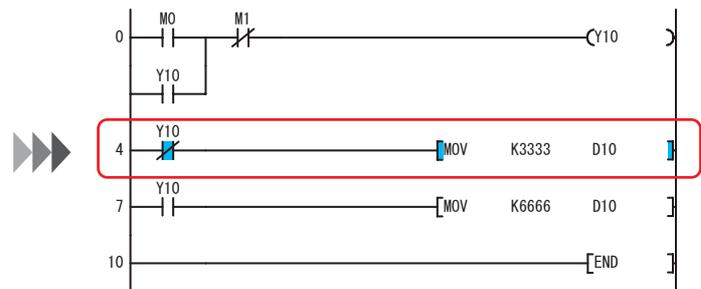
GOT: Touch the Stop Switch.



Sequence program:
The device M1 becomes ON,
so the device Y10 is OFF.



GOT: The Operation Lamp becomes OFF.



Sequence program:
The device Y10 becomes OFF,
so the value [3333] is stored in the device D10.



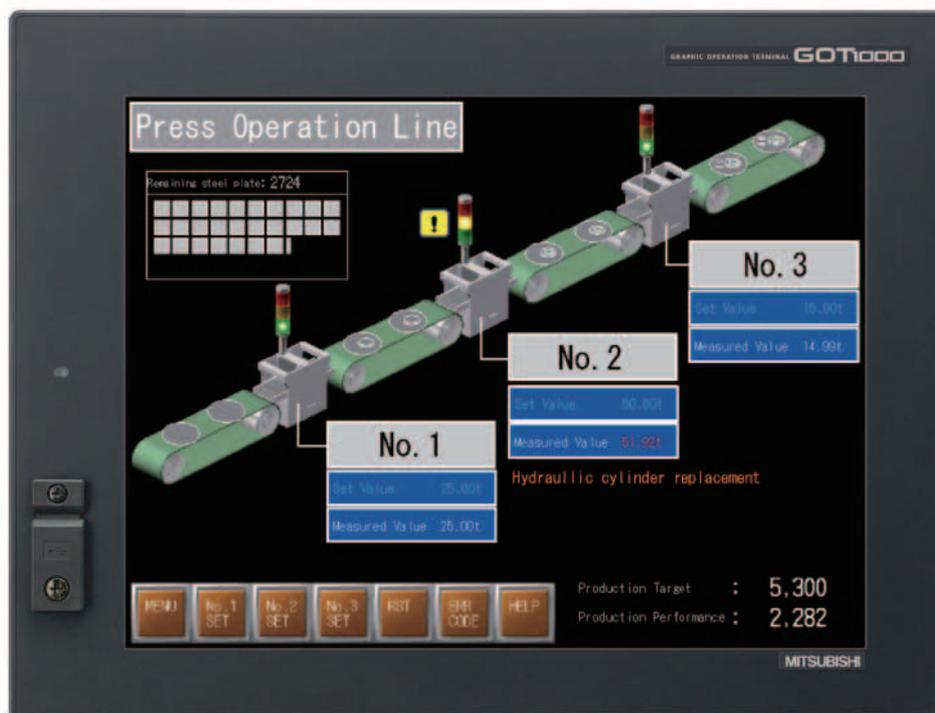
GOT: The numerical display is [3333].

Besides the objects explained before this page, basic figure and other objects can also be added, and the screens as below can be created.

Screen example 1



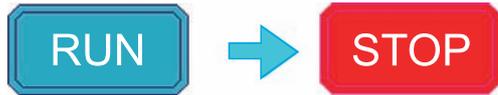
Screen example 2



GOT features lots of practical functions.
The following shows a number of the functions.

Lamp, switch

Lamp display



Change the lighting color of lamp.

Bit switch



Touch the bit switch to turn ON/OFF the bit device.

Data set switch



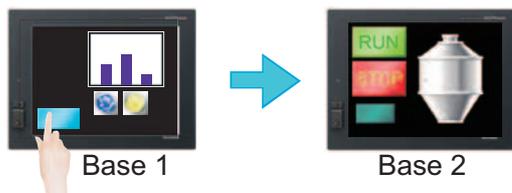
Touch the data set switch to change the value of word device.

Special function switch



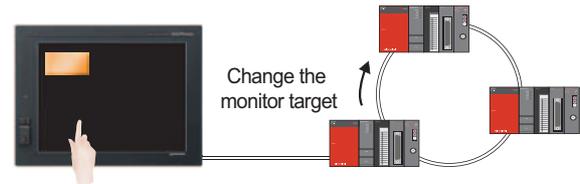
Touch the special function switch to switch the screen to applicable menu and so on.

Go to screen switch



Touch the go to screen switch to switch basic screen and window screen.

Change station No. switch



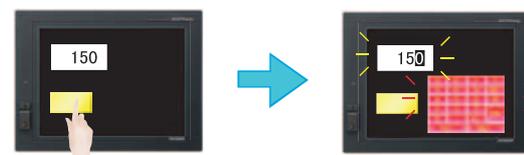
Switch the station number of the controller that is monitored.

Key cord switch



Used as the keys for numerical/ASCII input.

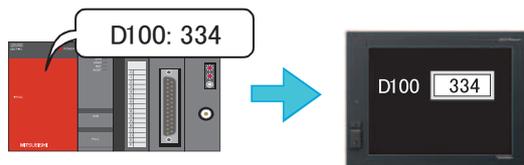
Data change switch



GOT displays the specified key window in the specified position, and the cursor on the corresponding object.

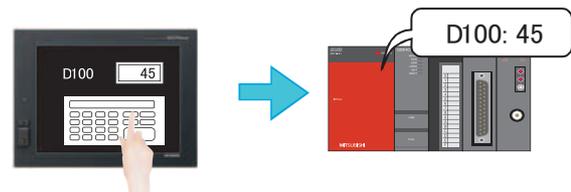
Numerical value, character display

Numerical display



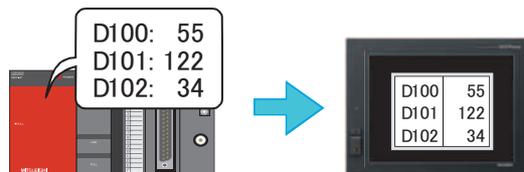
GOT displays the value of device with digit.

Numerical input



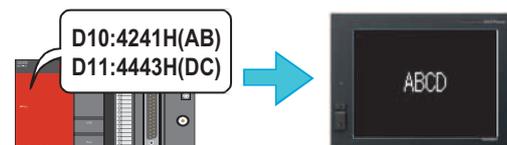
Write the value into the device.

Data list display



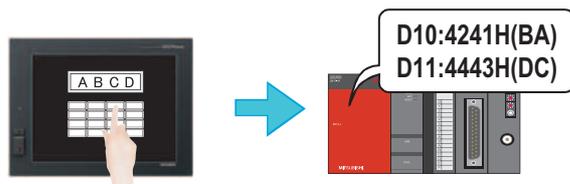
GOT displays the values of multiple devices in form of list.

ASCII display



GOT displays the value of device in character.

ASCII input



Input the character codes in the device.

Time display



GOT displays date/time.

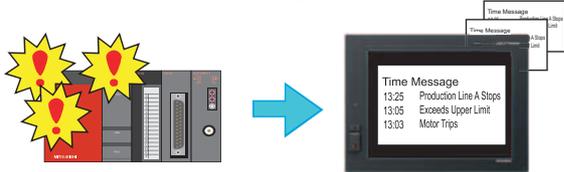
Comment display



GOT displays comment.

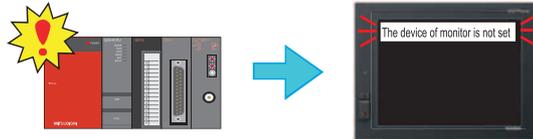
Alarm

Advanced alarm display



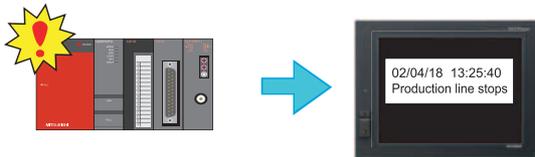
When alarm occurs, GOT errors, communication errors and the message created by users will be displayed in form of log. And the alarm will be displayed hierarchically.

Advanced alarm popup display



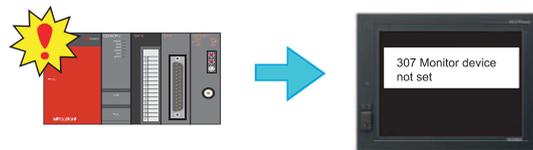
When alarm occurs, GOT errors, communication errors and the message created by users will be popped up. And the alarm will be displayed hierarchically.

User alarm display



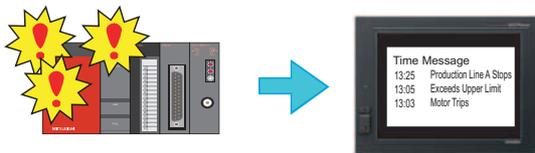
When alarm occurs, the message created by users will be displayed.

System alarm display



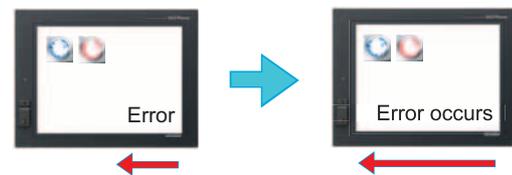
When alarm occurs, GOT errors or communication errors will be displayed.

Alarm history display



When alarm occurs, the message created by users will be displayed in form of history.

Scrolling alarm display



Display the alarm in landscape orientation.

Parts

Parts display



GOT displays the registered parts.

Parts movement display



GOT displays the moving parts.

Graph, meter

Panel meter display



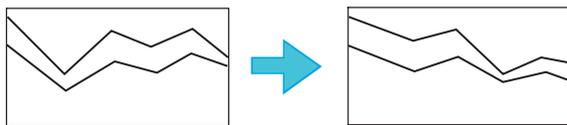
GOT displays the value of device in meter.

Level display



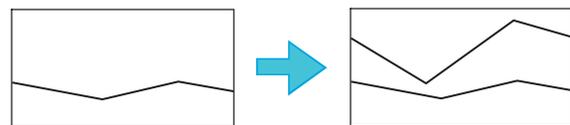
GOT displays the value of device in ratio comparing the whole.

Trend graph display



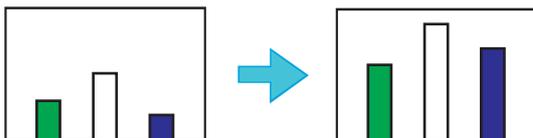
GOT displays the value of device in trend graph.

Line graph display



GOT displays the value of device in line graph.

Bar graph display



GOT displays the value of device in bar graph.

Statistical graph display

Pie chart

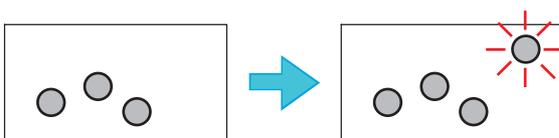


Bar chart



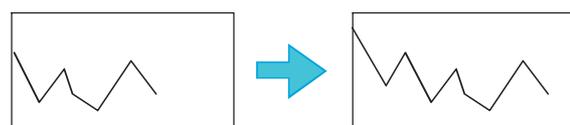
According to the ratio comparing with the whole, GOT displays the value of device in graph.

Scatter graph display



GOT displays the value of device in scatter graph.

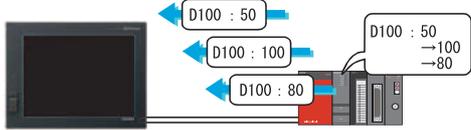
Historical trend graph display



GOT displays the data collected by logging function so far in trend graph.

Condition→Action * Only several of the functions will be explained.

Logging function



Collect and store the value of device.

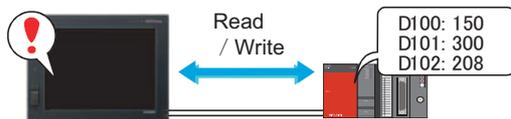
Time action function



Execute the operations such as device writing at specified time.

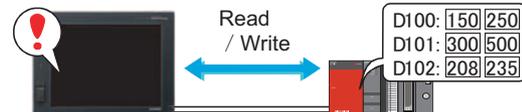
Formula

Recipe function



Monitor the status of device, and read/write the value of device when conditions are met. One value can be specified to a device.

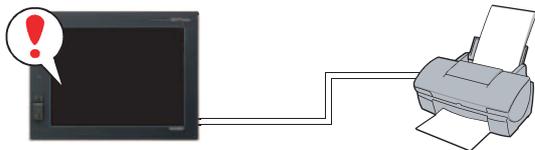
Advanced recipe function



Monitor the status of device, and read/write the value of device when conditions are met. Multiple values can be specified to a device. The value of device can also be read/written by using the utility of GOT.

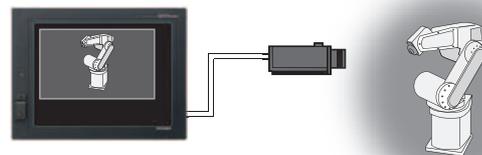
External I/O * Only several of the functions will be explained.

Report



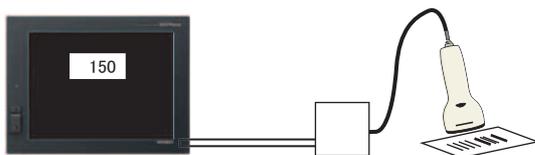
Collect and print the data about production management and production status and so on.

Video display



GOT displays the video image.

Barcode



Write the data that is read by barcode reader into the device.

Operation panel

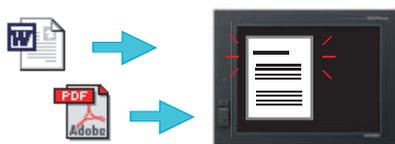


Use operation panel to execute the device writing.

Others

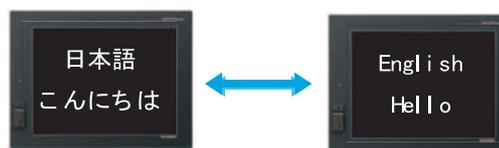
* Only several of the functions will be explained.

Document display



GOT displays the file data on GOT.

Language switching



Switch and display multiple languages.

System monitor



Monitor the status of devices in programmable controller.

Backup/Restore



Back up setting contents for the controller, and restore through GOT.

Ladder monitor



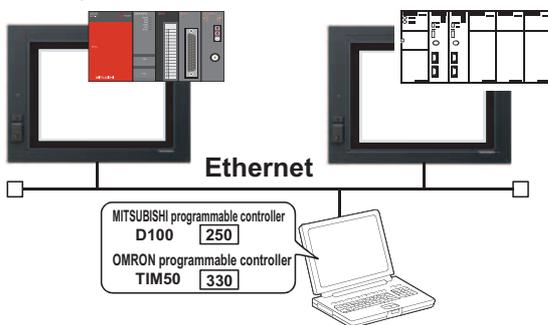
GOT displays the operation status of the sequence program.

Network monitor



Monitor the network status of MELSECNET/H, MELSECNET/10, MELSECNET (II), MELSECNET/B.

Gateway function



Perform remote monitoring and remote maintenance for production field from the office.

MES interface



Synchronization of the GOT controller data and the information system's data library (execution system) can be done without using the communication gateway.



For details, refer to . . .

GT Designer2 Version□
Basic Operation/Data Transfer Manual (manual number: SH-080529ENG)
GT Designer2 Version□
Screen Design Manual (manual number: SH-080530ENG)

Mitsubishi Graphic Operation Terminal Quick Guide

Precautions for Choosing the Products

This Quick Guide explains the typical features and functions of the GOT1000 series HMI and does not provide restrictions and other information on usage and module combinations. When using the products, always read the user's manuals of the products.

Mitsubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi; machine damage or lost profits caused by faults in the Mitsubishi products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi; damages to products other than Mitsubishi products; and to other duties.

⚠ For safe use

- To use the products given in this Quick Guide properly, always read the related manuals before starting to use them.
- The products within this catalog have been manufactured as general-purpose parts for general industries and have not been designed or manufactured to be incorporated into any devices or systems used in purpose related to human life.
- Before using any product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi.
- The products within this catalog have been manufactured under strict quality control. However, when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.

Country/Region	Sales office	Tel/Fax
USA	Mitsubishi Electric Automation Inc. 500 Corporate Woods Parkway Vernon Hills, IL 60061, USA	Tel : +1-847-478-2100 Fax : +1-847-478-0327
Brazil	MELCO-TEC Rep. Com.e Assessoria Tecnica Ltda. Av.Paulista, 1.439 - Edificio Mario Wallace S.Cochrane 7 andar - Conj.72 e 74 - Bairro Bela Vista - Sao Paulo / SP, Brazil	Tel : +55-11-3285-1840 Fax : +55-11-3284-8848
Germany	Mitsubishi Electric Europe B.V. German Branch Gothaer Strasse 8 D-40880 Ratingen, Germany	Tel : +49-2102-486-0 Fax : +49-2102-486-1120
UK	Mitsubishi Electric Europe B.V. UK Branch Travellers Lane, Hatfield, Herts., AL10 8XB, UK	Tel : +44-1707-276100 Fax : +44-1707-278695
Italy	Mitsubishi Electric Europe B.V. Italian Branch VIALE COLLEONI 7 - 20041 Agrate Brianza (Milano), Italy	Tel : +39-39-60531 Fax : +39-39-6053312
Spain	Mitsubishi Electric Europe B.V. Spanish Branch Carretera de Rubi 76-80 08190 Sant Cugat del Valles, Barcelona, Spain	Tel : +34-93-565-3131 Fax : +34-93-589-1579
France	Mitsubishi Electric Europe B.V. French Branch 25 Boulevard des Bouvets, F-92741 Nanterre Cedex, France	Tel : +33-1-5568-5568 Fax : +33-1-5568-5757
South Africa	Circuit Breaker Industries LTD Private Bag 2016, ZA-1600 Isando, South Africa	Tel : +27-11-928-2000 Fax : +27-11-392-2354
Hong Kong	Mitsubishi Electric Automation (Hong Kong) Ltd. 10th Floor, Manulife Tower, 169 Electric Road, North Point, Hong Kong	Tel : +852-2887-8870 Fax : +852-2887-7984
China	Mitsubishi Electric Automation (Shanghai) Ltd. 4/F Zhi Fu Plazz, No.80 Xin Chang Road, Shanghai, 200003 China	Tel : +86-21-6121-2460 Fax : +86-21-6121-2424
Taiwan	Setsuyo Enterprise Co., Ltd. 6F., No.105 Wu-Kung 3rd.RD, Wu-Ku Hsiang, Taipei Hsine, Taiwan	Tel : +886-2-2299-2499 Fax : +886-2-2299-2509
Korea	Mitsubishi Electric Automation Korea Co., Ltd. [Sales] 3F, 1480-6, Gayang-Dong, Gangseo-Gu, Seoul, 157-200, Korea [Service] B1F, 2F, 1480-6, Gayang-Dong, Gangseo-Gu, Seoul, 157-200, Korea	Tel : +82-2-3660-9552 Fax : +82-2-3664-8372/8335 Tel : +82-2-3660-9607 Fax : +82-2-3664-0475
Singapore	Mitsubishi Electric Asia Pte, Ltd. 307 Alexandra Road #05-01/02, Mitsubishi Electric Building Singapore 159943	Tel : +65-6470-2480 Fax : +65-6476-7439
Thailand	Mitsubishi Electric Automation (Thailand) Co., Ltd. Bang-Chan Industrial Estate No.111, Soi Serithai 54, T.Kannayao, A.Kannayao, Bangkok 10230, Thailand	Tel : +66-2-906-3238 Fax : +66-2-906-3239
Indonesia	Indonesia P.T. Autoteknindo SUMBER MAKMUR Muara Karang Selatan Block A/Utara No.1 Kav. No.11 Kawasan Industri/Pergudangan Jakarta-Utara 14440, Indonesia	Tel : +62-21-663-0833 Fax : +62-21-663-0832
India	Messung Systems Pvt, Ltd. Electronic Sadan III Unit No15, M.I.D.C Bhosari, Pune-411026, India	Tel : +91-20-2712-3130 Fax : +91-20-2712-8108
Australia	Mitsubishi Electric Australia Pty. Ltd. 348 Victoria Road, Rydalmere, NSW 2116, Australia	Tel : +61-2-9684-7777 Fax : +61-2-9684-7245



HEAD OFFICE: TOKYO BUILDING, 2-7-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
NAGOYA WORKS: 1-14, YADA-MINAMI 5, HIGASHI-KU, NAGOYA, JAPAN

When exported from Japan, this manual does not require application to the Ministry of International Trade and Industry for service transaction permission.