

Screen Creation Tool for the GT-series

Terminal GTWIN Ver.3 Operation Guide Book

Introduction

Thank you for purchasing this Panasonic product. To ensure that you use this product correctly, read the User's Manual thoroughly and fully understand their contents before use. Programming Software GTWIN Ver.3 can be used for various GT series, however, in this manual, operations of GT707 series are explained as an example. Please understand that usable functions in GTWIN Ver.3 vary depending on each GT-series model.

Types of Manuals

- The following types of GT707-series Manuals are available. Refer to these manuals according to the functions that you are using and the applications.
- You can download manuals from the Panasonic website (http://industrial.panasonic.com/ac/e/dl_center/manual/).

Unit name or application	Manual name	Manual code
Programmable Display GT707	GT707 User's Manual (Hardware)	WUME-GT707H
Screen Creation Tool GTWIN Ver.3	Terminal GTWIN Ver.3 Reference Manual	ACGM0357V9EN
General-purpose serial communication	GT-series General-purpose Serial Communication Manual (English Edition) (shared with conventional GT-series models)	ARCT1F356E

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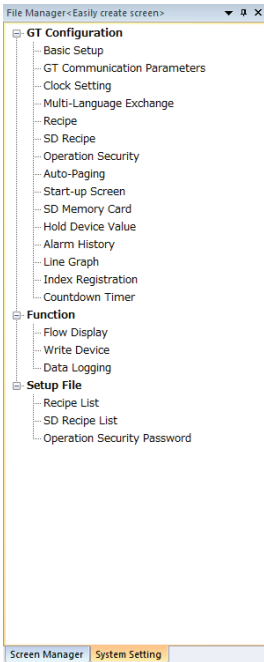
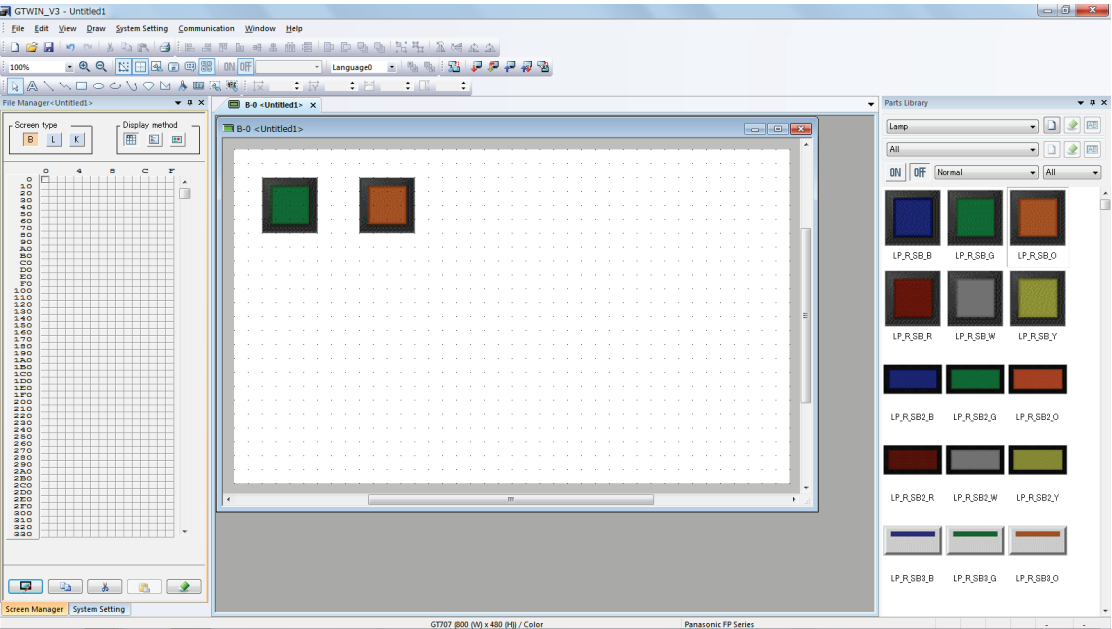
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GTWIN Overview

1.1 GTWIN Ver. 3 Overview

1.1.1 Improved Features in Ver. 3

The ease-of-use of the software has been improved through the addition of useful functions.



Screen manager thumbnail display/system setting tree

■ Improved file manager function

The screen manager and system setting menu have been integrated into the file manager. On the Screen Manager tab, the thumbnail display can be used to select a screen according to its screen image, which reduces the time required to search for screens. The System Setting tab has been changed to enable direct access to the setup dialog boxes of each function.

■ Substantial parts library

The addition of parts libraries and a parts group search function make it easy to search for parts. You can also register classifications as user libraries.

■ Substantial part editing functions

Switch, lamp, and message parts have been integrated, and placed parts can be changed in a reciprocal manner. This enables flexible design changes.

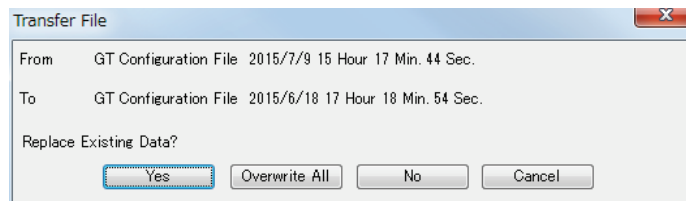
■ Added device search function

It is now possible to easily search for the basic communication area, switches and lamp parts, and the device numbers and usage locations of PLCs set to functions. This leads to major reductions in the time required to check and change I/O number and memory area assignments.

Search Result		
Device	Used for	Used Screen/File
R100K Bit)	Lamp / Message No.0 Replacement	Base Screen Operation panel 0
R100K Bit)	Switch No.0 Replacement	Base Screen Operation panel 0
R100K Bit)	Switch No.0 Result Output	Base Screen Operation panel 0
R100K Bit)	Switch No.0 Result Output	Base Screen Operation panel 0
R100K Bit)	Switch No.0 Replacement	Base Screen Language 2
R100K Bit)	Switch No.1 Replacement	Base Screen Language 2
R100K Bit)	Switch No.2 Replacement	Base Screen Language 2
R100K Bit)	Lamp / Message No.1 Replacement	Base Screen Operation panel 0

■ Transfer function

A transfer difference function has been added. Because GTWIN automatically extracts and transfers only the data that has been changed when a screen or setting change occurs, the transfer time can be greatly reduced. You can also check the file properties (clock/calendar information) during transferring.



■ Context menu

A context menu that is displayed when you right-click in the software has been added. This simplifies operations, which can lead to reductions in operation time. This menu is also useful as a guide when you are not sure what to do.

1.1.2 Integrated or Simplified Features in Ver. 3

Compared to conventional versions of GTWIN (earlier than Ver. 3), the following functions have been removed.

■ Integrated and simplified items

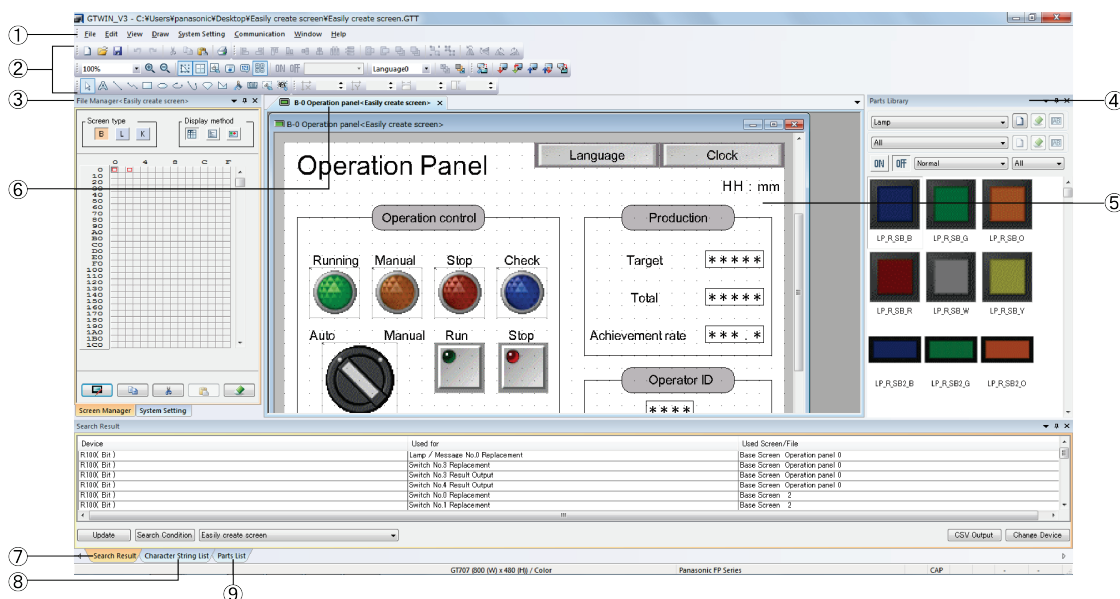
Classification	Item	Difference with conventional product
Screen creation	Font	The GTWIN (fixed font) setting has been removed.
	Font settings	The outlined font setting has been removed.
	Graphic drawing	Rounded rectangle and rectangle have been integrated. Setting Radius of Rounded Square to "0" results in a rectangle and any other value results in a rounded rectangle.
Parts setting	Attribute	The [List] screen of the parts setting dialog has been removed.
User interface	Toolbar	The [Enable/DisableSnap] switch button has been removed. Press [Set Grid/Guideline] to display a dialog box in which you can enable/disable snap.
	GT Usage Device	This has been integrated into the Find Device function. You can use an equivalent function by specifying [All Devices] in the Find Device dialog box.
	Display language switching	The List Edit of Multi Language Strings function has been integrated into the [List of Strings] window.
	Bitmap editor	The bitmap editor has been removed. Use Paint or other image editing software to create bitmap data, and then register it to the parts library.
Functions	Basic communication area	The "BAT LOW" flag has been omitted and only "BAT" flag is available.
	FP Monitor	This has been moved to the GT system menu.

2

GTWIN Operations

2.1 GTWIN User Interface

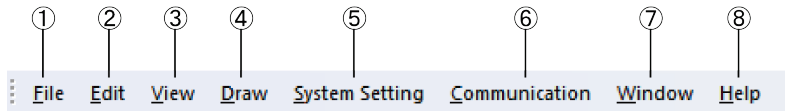
2.1.1 Names and Functions of Parts of the Screen



Number	Name	Function
①	Menu bar	All the functions that can be used in GTWIN are displayed in menus.
②	Toolbar	Functions commonly used from the menu bar are displayed as icons. The functions are separated into six types of toolbars.
③	File Manager window	Use this window to manage screen data and configure system settings. On the Screen Manager tab, you can select one of three display methods: map, list, or thumbnail. On the System Setting tab, you can open the setup dialog boxes of each function directly.
④	Parts Library window	The parts used during screen creation are displayed here. You can switch displayed parts between libraries. You can also create user-defined libraries.
⑤	Screen data editing window	This area is used to edit the parts, character strings, and graphics displayed on the screen.
⑥	Screen tab	The screen number, screen name, and name of the folder where the screen is saved are displayed as a set.
⑦	Search Result window	The results of the Find Device function are displayed here.
⑧	Character String List window	You can use this window to search for and edit character strings used in parts or screens. When you are using language switching, you can enter character strings in the list.
⑨	Parts List window	The parts pasted on the screen are displayed in a list form. The parts setting dialog box can be opened directly by double-clicking here.

2.1.2 Menu Bar

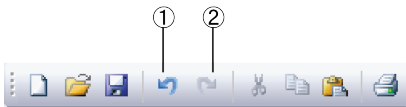
All the GTWIN operations and functions have been organized into menus according to applications.



Number	Name	Function
①	<u>F</u> ile	Commands for operating screen files, for printing, etc. are collected here.
②	<u>E</u> dit	Editing commands such as cutting, copying, and pasting character strings, graphics, and parts as well as commands for positioning and aligning are collected here.
③	<u>V</u> iew	Commands related to the screen display such as the settings and display magnification of the screen grid and showing/hiding the toolbar and status bar are collected here.
④	<u>D</u> raw	Commands for specifying and setting graphics drawn on the screen such as characters, lines, and shapes are collected here.
⑤	<u>S</u> ystem Setting	Commands such as those for the GT configuration are collected here.
⑥	<u>C</u> ommunication	Commands related to settings for communicating with the GT, transferring data, and verification are collected here.
⑦	<u>W</u> indow	Commands related to windows, such as commands for the window display methods and for switching between windows, are collected here.
⑧	<u>H</u> elp	Commands related to the GTWIN Help and version information, etc. are collected here.

2.1.3 Toolbar

■ Standard toolbar



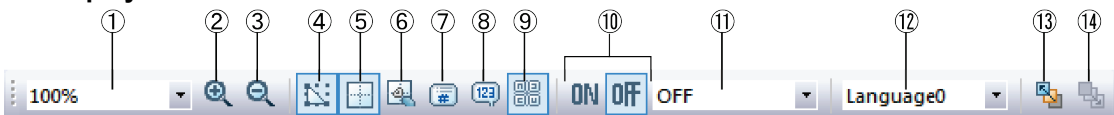
Number	Name	Function
①	[Undo] icon	Undo the previous operation.
②	[Redo] icon	Redo the operation that you undid with the [Undo] icon.



◆ Note

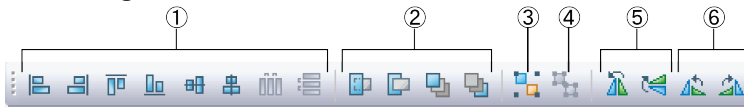
- The [Undo] icon only applies to drawing and editing operations such as those applied to character strings, graphics, and parts and to some editor operations that can be performed from the menu bar. You cannot undo other operations.

■ Display toolbar



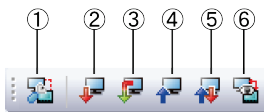
Number	Name	Function
①	[Enlargement/Reduction Rate] list	Display the screen at the specified magnification.
②	[Enlarge] icon	Enlarge the display of the screen.
③	[Reduce] icon	Reduce the display of the screen.
④	[Display/Hide Grid] icon	Switch between displaying and hiding the grid.
⑤	[Display/Hide Guideline] icon	Switch between displaying and hiding the guideline.
⑥	[Set Grid/Guideline] icon	Open the grid/guideline setting screen.
⑦	[Display/Hide Part Numbers] icon	Switch between displaying and hiding part numbers.
⑧	[Display/Hide Part Attributes] icon	Switch between displaying and hiding part attributes.
⑨	[Display/Hide Keyboard Parts] icon	Switch between displaying and hiding keyboard parts.
⑩	[Change On/Off of parts] icons	Switch the status of the selected part between ON and OFF.
⑪	[Parts Status] list box	Switch the status of the selected lamp switch part between ON and OFF and the number of message parts.
⑫	[Select Language Number] list box	Switch the language number of the selected base screen.
⑬	[Previous Screen] icon	Open the screen whose number is immediately before the number of the screen being edited. If this screen is already open, it will be set as the active screen.
⑭	[Next Screen] icon	Open the screen whose number is immediately after the number of the screen being edited. If this screen is already open, it will be set as the active screen.

■ Editing toolbar



Number	Name	Function
①	[Alignment] icons	Align the positions of the selected character strings, graphics, or parts.
②	[Arrange] icons	Change the arrangement of overlapping character strings, graphics, and parts (change which items are in the front and which are in the back). (Parts are always arranged in the front of character strings and graphics.)
③	[Group] icon	Group multiple character strings, graphics, and parts.
④	[Ungroup] icon	Ungroup a set of items.
⑤	[Reverse] icons	Reverse the selected graphic or part horizontally or vertically.
⑥	[Rotate] icons	Rotate the selected character string, graphic, or part to the left or to the right.

■ Communication toolbar



Number	Name	Function
①	[Communication Parameters] icon	Open the Communication Parameters screen.
②	[GTWIN → GT Transfer All Data] icon	Transfer all the data from GTWIN to the GT.
③	[GTWIN → GT Transfer Changed Data] icon	Transfer the data that has been changed from GTWIN to the GT.
④	[GT → GTWIN Read All Data] icon	Read all the data from the GT to GTWIN.
⑤	[Send/Receive Selected Data] icon	Send/receive the selected data.
⑥	[Verify] icon	Compare the file on the GT against the file being edited in GTWIN.

■ Coordinate and Size toolbar



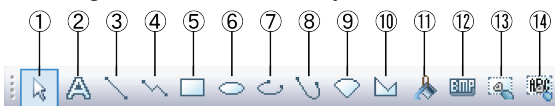
The coordinates (upper-left corner) and sizes of the part selected on the base screen are displayed here. You can also enter values to change them. As shown in the above figure, the coordinates of the upper-left corner of the part selected in the active base screen window and the sizes of this part are displayed here. You can change the position and sizes of the selected part by setting the values here.



As shown in the above figure, if multiple parts are selected, values that are the same for all the parts are displayed, and values that differ are displayed as blanks. You can change the positions and sizes of all the selected parts by setting the values in this situation. If no parts are selected, these fields are disabled.

■ Drawing toolbar

Drawing functions commonly used from the menu bar are displayed as icons.



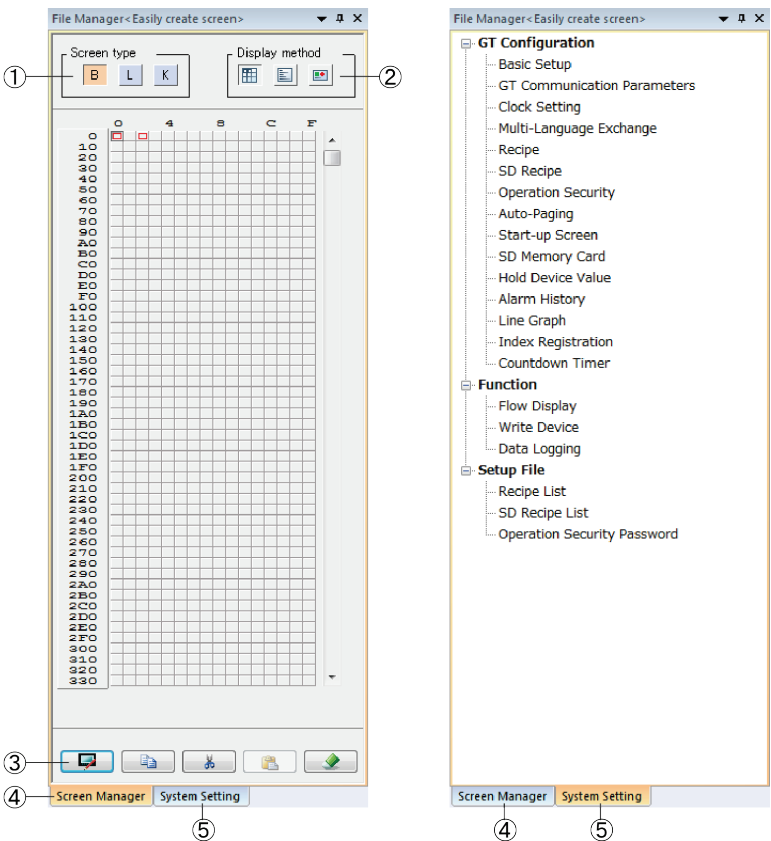
Number	Name	Function
①	[Select] icon	Select character strings, graphics, and parts.
②	[Character String] icon	Enter character string.
③	[Line] icon	Draw a straight line.
④	[Continuous Line] icon	Draw a continuous straight line.
⑤	[Rectangle/Rounded Rectangle] icon	Draw a rectangle or a rounded rectangle.
⑥	[Circle] icon	Draw a circle or an oval.
⑦	[Arc] icon	Draw an arc or an arc of an oval.
⑧	[Curve] icon	Draw a curve.
⑨	[Circular Segment] icon	Draw a circular segment or a circular segment of an oval.
⑩	[Polygon] icon	Draw a polygon.
⑪	[Fill] icon	Fill an area enclosed by lines or graphics with color.
⑫	[Read Image] icon	Read an image file into the screen being edited.
⑬	[Line Type and Color] icon	Display the attributes setting screen for the selected graphic.
⑭	[Character Type] icon	Display the attributes setting screen for the selected character string.

2.2 File Manager

2.2.1 File Manager Function Overview

This section provides an explanation of the file manager.

■ File manager



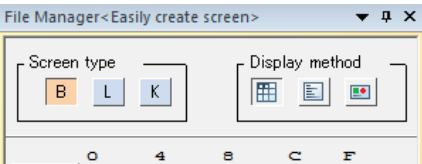
■ Names and functions of parts of the file manager

Number	Name	Function
①	Screen type switching buttons	Select the type of screens displayed in the file manager.
②	Display method switching buttons	Select the file manager display method.
③	Screen manager editing buttons	You can edit the screen whose number you have selected such as by opening, copying, cutting, pasting, and deleting the screen. You can also perform these operations from the context menu displayed when you right-click the screen.
④	Screen Manager tab	Select this tab to use the screen manager functions.
⑤	System Setting tab	Displays the settings of the functions of the GT in a list. Double-click a function name to display its setting dialog box.

2.2.2 Switching the Screen Type in the Screen Manager

Use the screen type switching buttons to switch the screen displayed in the screen manager.

■ Screen Manager tab

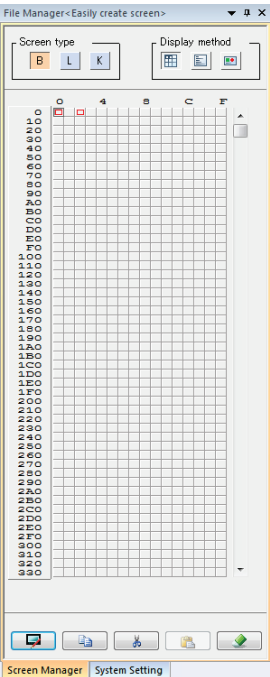


Screen type	Explanation	Screen number range
B	Display the screen manager of the base screen.	No. 0 to No. 3FF
L	Display the screen manager of the login screen. Use this in situations such as when you are creating a password entry screen when using the operation security function.	No. 0 to No. F
K	Display the screen manager of the keyboard screen. Use this in situations such as when you are creating screens for entering data for data parts in combination with keyboard parts.	No. 0 to No. 7

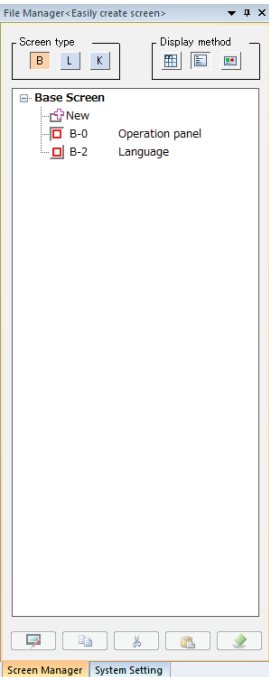
(Note): Screen numbers are displayed in hexadecimal. The number of screens that you can actually use vary depending on the screen being created and the settings.

2.2.3 Switching the Display Method in the Screen Manager

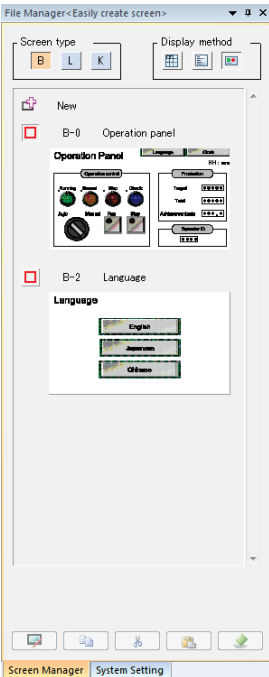
You can select from three methods. Regardless of which method you select, you can still perform operations on the screen data such as copying, pasting, deleting, and setting screen attributes from the context menu displayed when you right-click in the screen.



Map display



List display

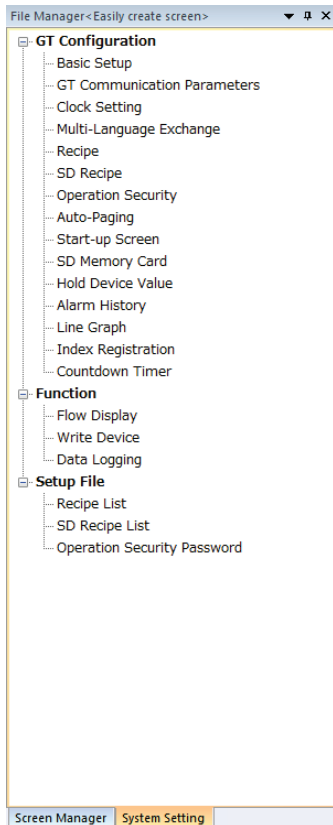


Thumbnail display

2.2.4 System Settings

On the System Setting tab, you can open the dialog boxes of the functions set on the GT.

■ System Setting tab



■ System setting items

Item		Explanation
GT Configuration	Basic Setup	Configure settings such as the basic communication area with PLC, backlight control, touch sound, and battery error display.
	GT Communication Parameters	Set the conditions for communicating with the PLC.
	Clock Setting	Select the clock to use (the GT clock or the PLC clock).
	Multi-Language Exchange	Set the PLC device to refer to when using the language switching function.
	Recipe	Set the PLC control device to assign when using the recipe function.
	SD Recipe	Set the PLC control device to assign when using the SD recipe function. Also set the timeout period and the screen number being transferred or saved.
	Operation Security	Set items such as the screen number, output device, and timeout period when using the operation security function.
	Auto-Paging	Set items such as the screen number and the display time when using the auto-paging function.
	Start-up Screen	Set the screen number and the display time when the software starts.
	SD Memory Card	Set items such as the control output and free space detection when writing to an SD card.
	Hold Device Value	Set the holding of PLC devices and GT internal devices.
	Alarm History	Set items such as the devices to assign to alarms, the number of records, and the record information classification (triggered, acknowledged, or recovered) when using the alarm history function.
	Line Graph	Set items such as the devices to perform sampling, the triggers, and the number of records when using the line graph function.
	Index registration	Set this when setting indexes.
	Countdown Timer	Set this when using the countdown timer.
Function	Flow Display	Set the number of messages, reference device, and message details for the flow display.
	Write Device	Set the screen, conditions, and operations when writing devices.
	Data Logging	Set items such as the trigger conditions, logging target device, and save conditions when using the data logging function.
Setup File	Recipe List	Register devices to a recipe and edit the devices in the recipe. Import and export functions are also available.
	SD Recipe List	Set items such as the registration conditions and format of the SD recipe.
	Operation Security Password	Set the security level and password when using the operation security function.



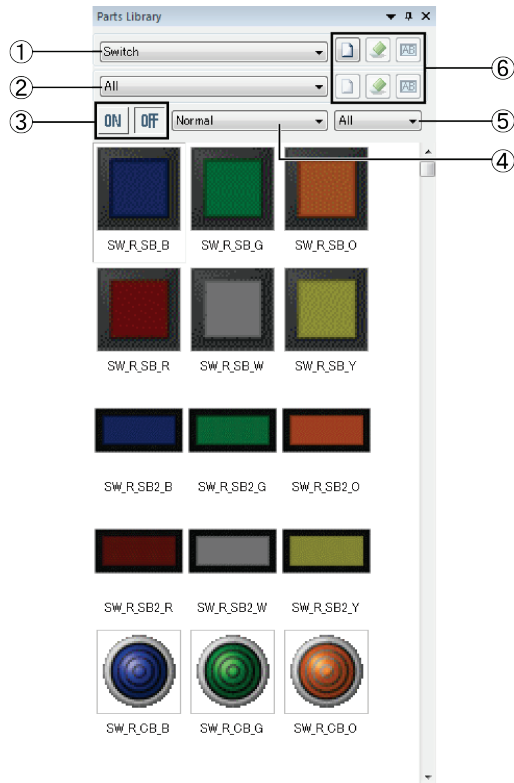
◆ Reference

For details on each function, refer to the Terminal GTWIN Ver.3 Reference Manual.

2.3 Parts Library

2.3.1 Parts Library Function Overview

This section provides an explanation of the parts library.



Number	Name	Function
①	Library switching list box	Select the parts library to paste in the screen.
②	Library group switching list box	Select the group that is used to classify the contents of the library. <ul style="list-style-type: none"> ● For the standard library, select the part type. ● For switch and lamp libraries, you can select the design.
③	ON/OFF display switching buttons	You can press these buttons to switch and check the display image of the ON/OFF state of switches and lamps.
④	Screen display size switching list box	You can switch the size of the parts displayed in the parts library.
⑤	Color group switching list box	You can use a filter to narrow down the parts into layers classified within the parts library. <ul style="list-style-type: none"> ● For the standard library, this is not displayed. ● For switch and lamp libraries, you can select the color group.
⑥	User library editing buttons	You can create new parts libraries and parts groups as well as delete and rename them.

2.3.2 Parts Library Types

The parts library is organized as shown below.

■ Parts library

Library	Group	Color group	Explanation
Standard	All	None	This parts library conforms to conventional GTWIN.
	Switch	—	These parts have a function for turning the corresponding PLC bit device ON/OFF. A variety of functions can be assigned to these parts.
	Lamp	—	The display status of these parts changes depending on the ON/OFF state of the corresponding PLC bit device.
	Message	—	These parts have a function for switching their display status according to the value of the corresponding PLC device.
	Data	—	Displays the numeric value of the PLC device on the GT screen.
	Bar graph	—	These parts have a function for displaying the changes in the value of the referenced PLC device as a bar graph. Graphs can be vertical or horizontal.
	Clock	—	These parts have a function for displaying the date and time according to the referenced clock (the GT clock/PLC clock). A single clock part displays one of the following items: year, month, day, hour, minute, second, or day of week.
	Line graph	—	These parts have a function for displaying the changes in the value of the referenced PLC device as a line graph.
	Alarm list	—	These parts are used to monitor PLC devices allocated to error statuses and to display an alarm message on the GT or record the history of error occurrence, etc. in the internal memory when an error occurs.
	Keyboard	—	These parts are used to enter numeric values that you want to display with data parts.
	Custom	—	When you want to create user-defined parts, these parts can be used to edit the display of the parts to use. Three types are available: switch, lamp, and message.
Switch	Real Metallic Pastel Icon	Blue, Green, Orange, Red, White, Yellow	These switch parts have been designed into real, metallic, pastel, and icon styles.
Lamp	Real Metallic Pastel	Blue, Green, Orange, Red, White, Yellow	These lamp parts have been designed into real, metallic, and pastel styles.
Template (Background)	Real Metallic Pastel	Blue, Green, Orange, Red, White, Yellow	These parts have been prepared for use as the background colors of each screen.
Template (PLC)	FP0R	—	These parts are used to monitor the operation indicator LEDs of the Panasonic PLC FP0R-series.

2.4 Find Device/Character String List

2.4.1 Search Result Window

- Use the [Find Device] function to display the device numbers of the reference devices and the devices that have been set to output on the connected PLC.
- You can execute the search by selecting the [Find Device] menu command or by pressing [Update] in the Search Result window.

Search Result		
Device	Used for	Used Screen/File
R100(Bit)	Lamp / Message No.0 Replacement	Base Screen Operation panel 0
R100(Bit)	Switch No.3 Replacement	Base Screen Operation panel 0
R100(Bit)	Switch No.3 Result Output	Base Screen Operation panel 0
R100(Bit)	Switch No.4 Result Output	Base Screen Operation panel 0
R100(Bit)	Switch No.0 Replacement	Base Screen Language 2
R100(Bit)	Switch No.1 Replacement	Base Screen Language 2
R100(Bit)	Switch No.2 Replacement	Base Screen Language 2
R100(Bit)	Lamp / Message No.1 Replacement	Base Screen Operation panel 0

■ Search Result window

Number	Name	Function
①	Device	Displays the PLC device name and unit (bits/words).
②	Used for	Displays the part and function for which the device is set.
③	Used Screen/File	Displays the screen number/file for which the device is set.

2.4.2 Character String List Window

- The Character String List window displays the character strings that have been entered for parts and in the screen. These character strings can be edited.

Character String List														
Used Screen/File	Used for	Language0	Language1	Language2	Language3	Language4	Language5	Language6	Language7	Language8	Language9	Language10	Language11	Language12
Base Screen Operation panel 0	Operation	操作/操作画面												
Base Screen Operation panel 0	Switch No.1	Clock	時計設定	内部時計										
Base Screen Operation panel 0	Switch No.2	Language	言語切替	多语言互										
Base Screen Operation panel 0	Switch No.3													
Base Screen Operation panel 0	Switch No.3													
Base Screen Operation panel 0	Switch No.4													
Base Screen Operation panel 0	Switch No.4													
Base Screen Operation panel 0		Running	運転中	运转中										
Base Screen Operation panel 0		Manual	手動中	手动中										

Number	Name	Remark
①	Used Screen/File	Displays the screen number/file for which the device is set.
②	Used for	Displays the part and function for which the device is set.
③	Language numbers and character strings	Displays the character strings set to Language0 to Language15. You can edit these character strings.

2.5 GTWIN Ver. 3 Usage Procedures

2.5.1 Section Overview

This section explains the GTWIN basic operation procedures by separating them into the following four steps.

■ Operation procedures

	Explanation	Main operations
①	Starting GTWIN → Displaying the file manager	<ul style="list-style-type: none">● Start GTWIN and create a new file. Select the GT and PLC models.● Set the communication area with the PLC.● When the sequence of operations is complete, the file manager will be displayed.
②	Creating a base screen → Saving data	<ul style="list-style-type: none">● Double-click a screen number in the file manager to open its base screen.● Drag a part to place it on the base screen.● Press [Save As] to save the data.
③	Transferring data to the GT	<ul style="list-style-type: none">● From GTWIN, select the data transfer screen.● You can select the transfer method from transferring all the data, the selected data, or the data that has been changed.
④	Exiting GTWIN	Exit GTWIN.

2.5.2 Starting GTWIN → Displaying the File Manager

This section provides the procedure covering the steps from starting GTWIN to displaying the file manager.

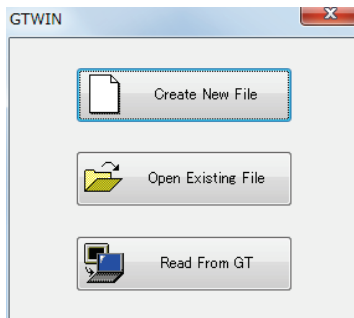
■ Procedure



◆ Procedure

1. Start → [All Programs] → [Panasonic-ID SUNX Terminal] → [GTWIN_V3] → [GTWIN_V3].

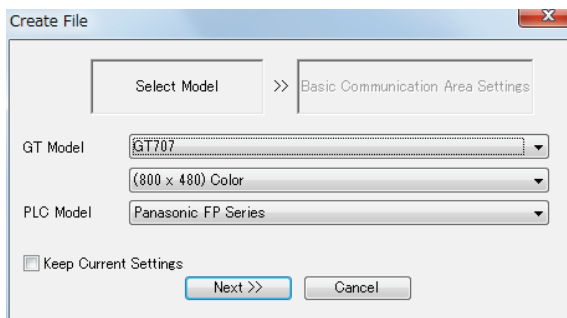
The [GTWIN] dialog box is displayed.



Option	Explanation
Create New File	Press this to create new screen data.
Open Existing File	Press this to read data that has been saved to disk.
Read From GT	Press this to read data that has been saved to the GT.

2. Press [Create New File].

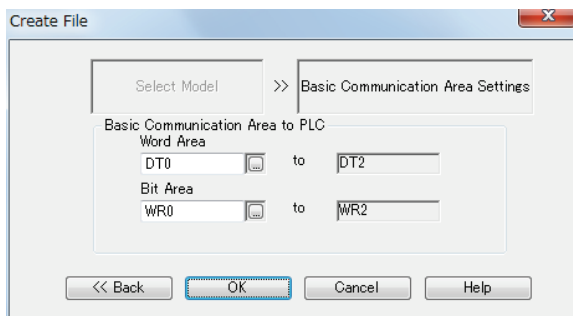
The [Select Model] dialog box is displayed.



Option	Explanation
GT Model	Select the GT model. You can also select a vertically oriented model.
PLC Model	Select a PLC model. Other companies' PLC can also be selected.
Keep Current Settings	Select this check box to save the settings.

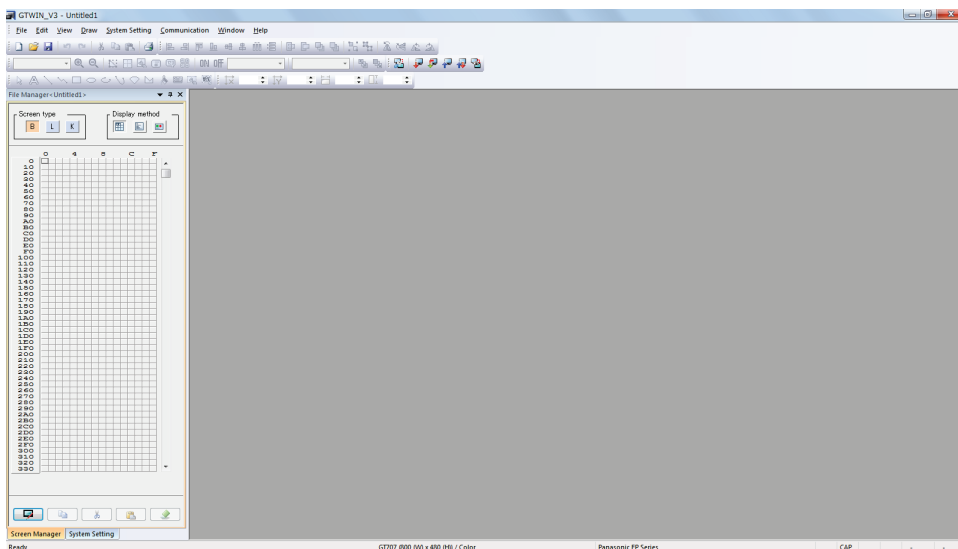
3. Press [Next].

The dialog box for setting [Basic Communication Area to PLC] is displayed.



4. Check the assignment of the basic communication area, and then press [OK].

GTWIN starts, and the file manager is displayed on the left side.



◆ Reference

For details on the basic communication area, refer to section 4.2 Basic Communication Area.

2.5.3 Creating a Base Screen → Saving Data

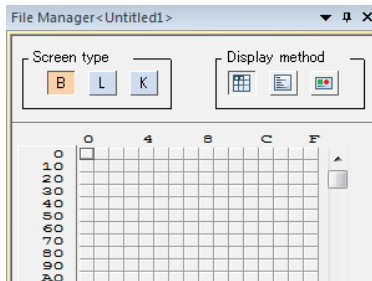
This section provides the procedure covering the steps from creating a sample of the base screen with the file manager to saving this sample. The following procedure assumes that you have already started GTWIN and displayed the file manager.

■ Procedure



◆ Procedure

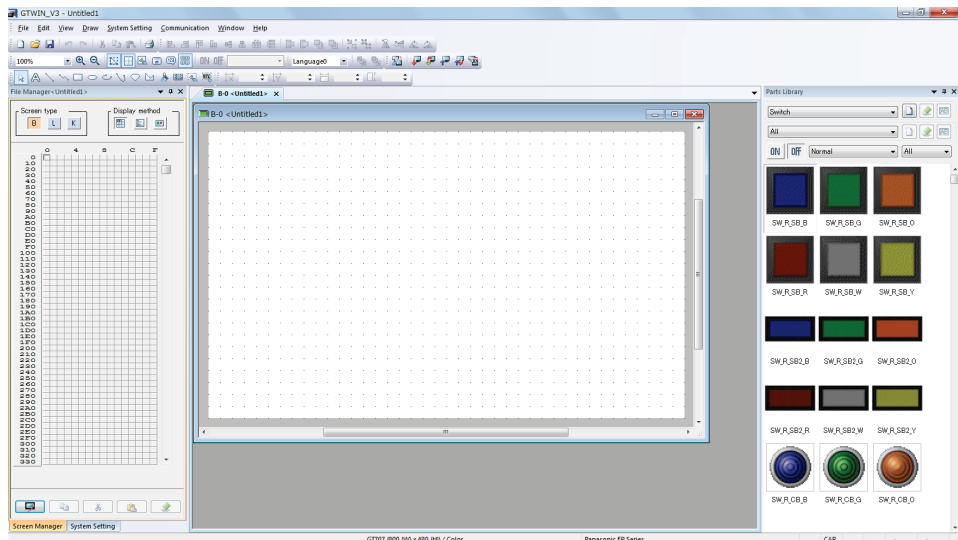
1. Double-click a screen number in the file manager displayed on the left side of GTWIN.



The "Screen data editing window" corresponding to the selected screen number is displayed.

2. On the [View] menu, select [Parts Library Window].

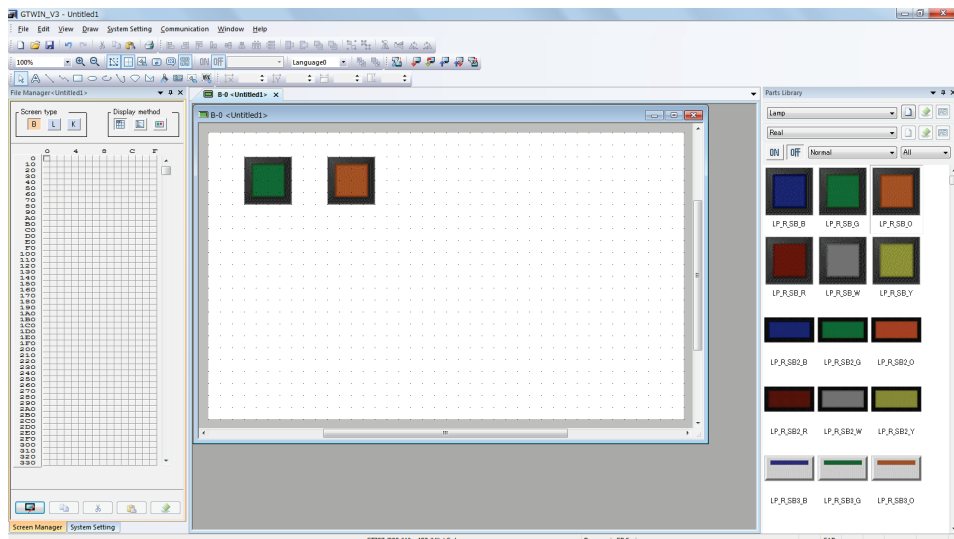
The parts library window is displayed on the right side of GTWIN. In the following figure, the base screen [B-0] and the [Switch] parts library have been selected.



If the parts library is already displayed, there is no need to perform this operation.

3. Drag a part to place it on the base screen.

In the following figure, two lamp switch parts have been placed on the screen.



4. On the [File] menu, press [Save As].

A dialog box for checking the save destination will be displayed.

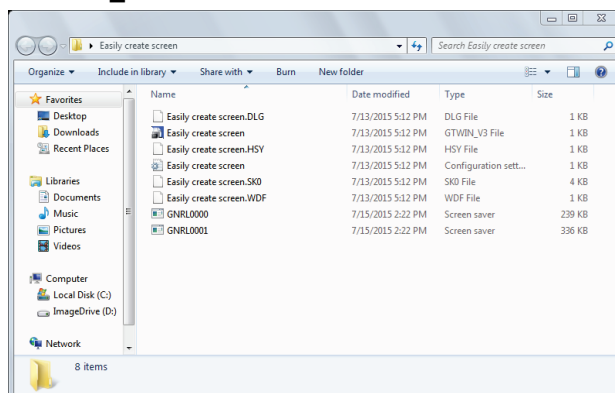
5. Select the path of the save destination, enter the name of the folder to save the data in, and then press [Save].

The folder will be created, and then multiple files will be saved in the folder.



◆ Key Point

- If you close the screen after placing parts or drawing in the screen data, the screen will be registered to the file manager and will be displayed highlighted in red.
- All the screen data is saved as a folder. The number of files varies depending on the number of screens and the parts that are used. Do not mistakenly delete any of the files. To open the screen data, select the "GTWIN_V3 File".



2.5.4 Transferring Data

This section provides the procedure covering how to transfer screen data created in GTWIN to the GT.

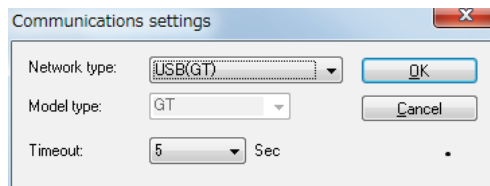
■ Procedure



◆ Procedure

1. On the [Communication] menu, select [Communication Parameters].

The [Communications settings] dialog box is displayed.



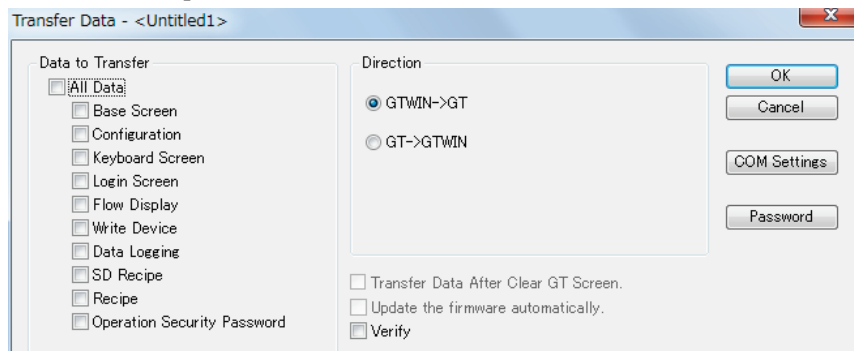
2. Check that the network is set to [USB(GT)], and then press [OK].
3. On the [Communication] menu, select [Send All Data from GTWIN → GT].

The screen data and configuration data is transferred from GTWIN to the GT.



◆ Key Point

- In GTWIN Ver. 3, a [Send Changed Data from GTWIN -> GT] function is available. This function transfers only the difference of screen data and setting information before and after change, which leads to great reductions in the transfer time.
- You can also select the data to transfer by using the [Send/Receive Selected Data] function.



- The USB driver must be installed for the first time that you connect to your PC. Refer to the GTWIN Ver.3 Installation Guide.

2.5.5 Exiting GTWIN

This section provides the procedure covering how to exit GTWIN.

■ Procedure

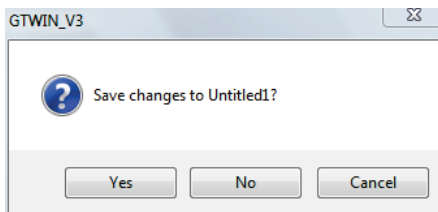


◆ Procedure

1. On the [File] menu, select [Exit].

You will exit [GTWIN].

If there are unsaved screens, a confirmation message box will be displayed.



3

Creating Screens

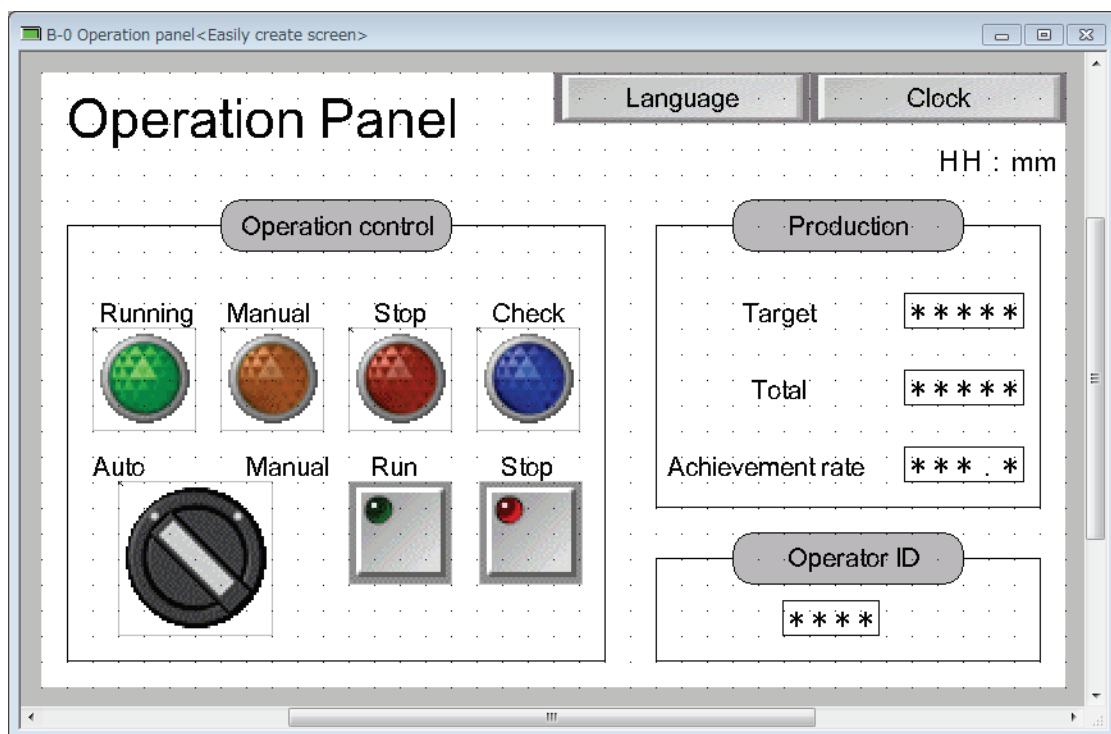
3.1 Section Details

3.1.1 Screen Creation Examples

This section provides examples of how to place and set parts as well as how to draw parts by way of examples in which the following three screens are created.

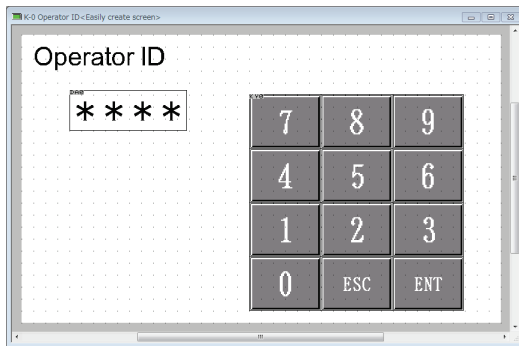
■ Main panel (base screen: B-0)

This screen is created as the main operation panel screen.



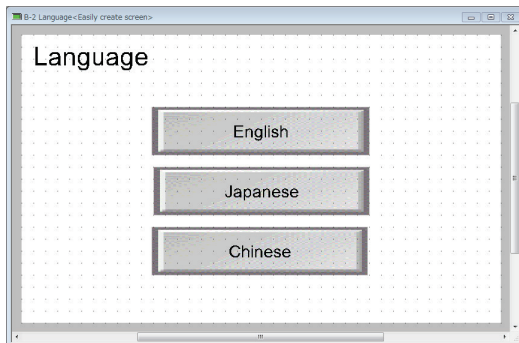
■ Operator ID entry screen (keyboard screen: K-0)

This screen is created for entry of the operator's ID when the [Operator ID] data part is pressed on the main panel (base screen: B-0) given on the previous page. Press [ENT] on the keyboard to return to the main panel.



■ Language switching screen (base screen: B-2)

This screen is created for switching of the display language when the [Change Language] switch is pressed on the main panel (base screen: B-0) given on the previous page. Set to return to the main panel when the language is selected.

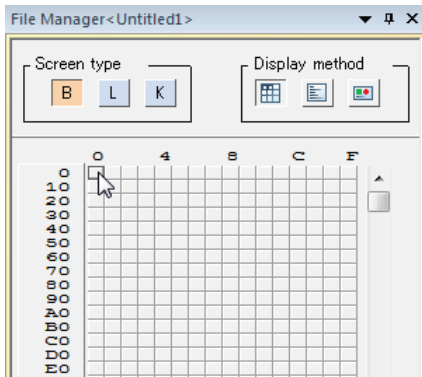


3.2 Creating the Main Panel (Base Screen: B-0)

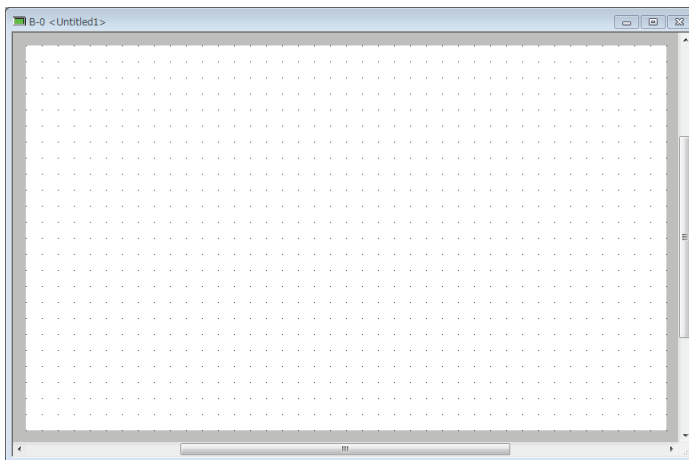
3.2.1 Creating the Base Screen

■ Base screen settings

1. Check that [B] is selected under [Screen type] in the file manager, and then double-click the button for screen number 0.



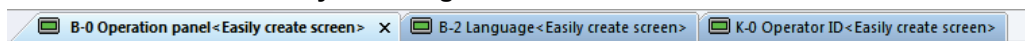
Base screen 0 is created.



◆ Key Point

- The open screens are displayed as tabs at the top of the screen data editing window.

Even if a screen is hidden under a different window, you can bring the screen to the front by selecting its tab here.



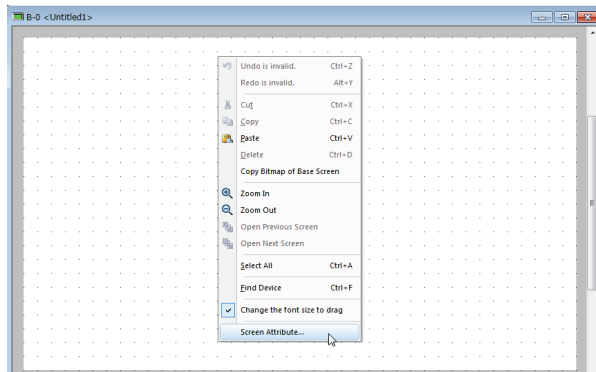
■ Base screen attributes

Set attribute information such as the name of the screen.

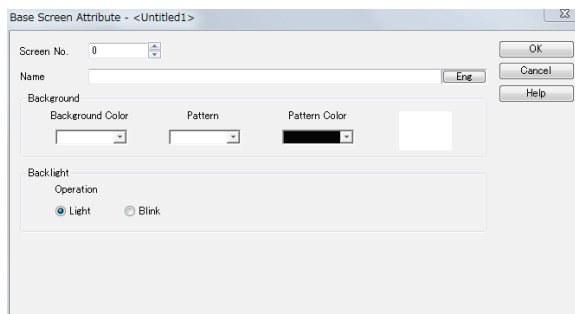


◆ Procedure

1. Right-click in the base screen to display the context menu, and then select [Screen Attribute].



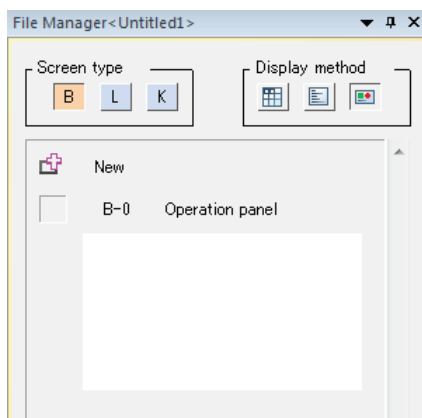
The [Base Screen Attribute] dialog box is displayed.



2. Enter "Operation panel" in the [Name] text box, and then press [OK].

This sets the name of the base screen.

The name that you set here is the screen title that is used in lists and thumbnails displayed on the file manager.



3.2.2 Drawing and Setting Lamp Switch Parts (1) Lamp Parts

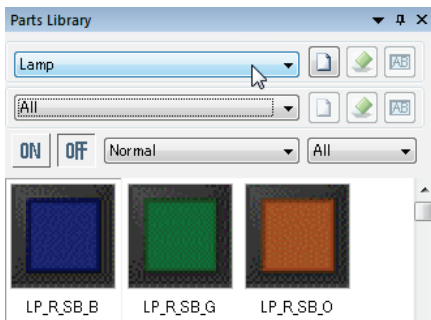
Draw the parts that function as lamps.

■ Drawing

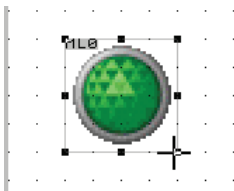


◆ Procedure

1. Use the library switching list in the parts library to select [Lamp].

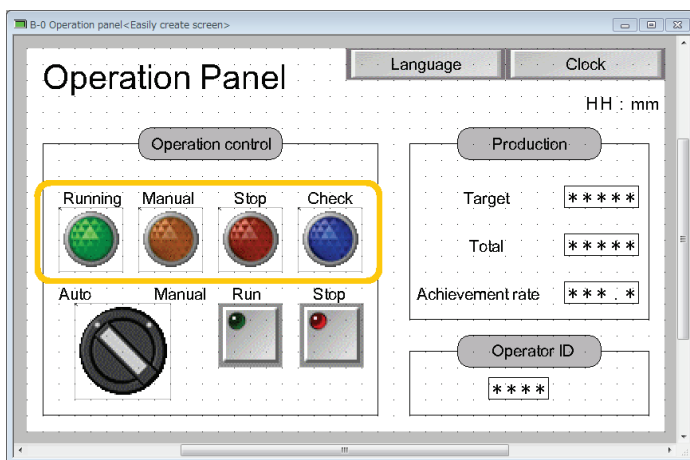


2. Drag a lamp switch part from the parts library to the base screen.
3. Select ML0, the lamp switch part that you have placed on the screen.
4. Drag one of the ■ marks displayed in the corners of the part to change its size.



■ Completed area (lamp parts are placed)

The section surrounded by the yellow line indicates the completed area through this procedure.



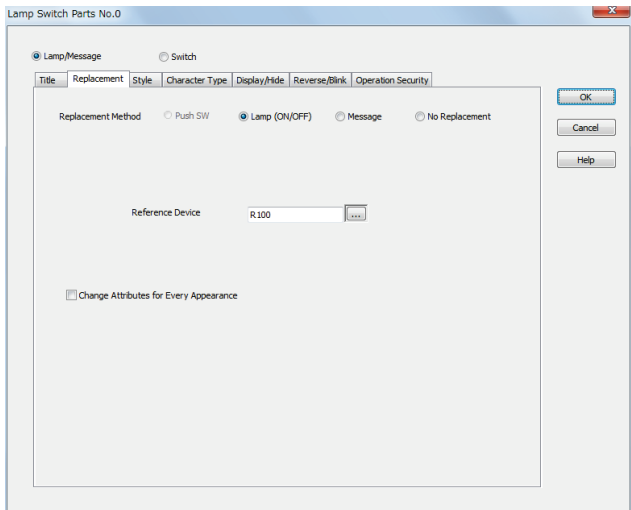
■ Setting part attributes



◆ Procedure

1. Double-click the lamp switch part whose attributes you want to set.

A dialog box for setting its attributes is displayed.



2. Set the necessary attributes.

Part number	Part attribute	Replacement	Style	Font settings
ML0	Lamp/Message	Replacement Method: Lamp (ON/OFF) Device: R100	Select From Design Library, R_CB2_G	—
ML1	Lamp/Message	Replacement Method: Lamp (ON/OFF) Device: R101	Select From Design Library, R_CB2_O	—
ML2	Lamp/Message	Replacement Method: Lamp (ON/OFF) Device: R102	Select From Design Library, R_CB2_R	—
ML3	Lamp/Message	Replacement Method: Lamp (ON/OFF) Device: R103	Select From Design Library, R_CB2_B	—

- Settings that are not changed from the initial settings are listed as "-" or are omitted.



◆ Key Point

- You can also set the part attributes by selecting [Parts Attribute] in the context menu displayed when you right-click the part.

3.2.3 Drawing and Setting Lamp Switch Parts (2) Switch Parts

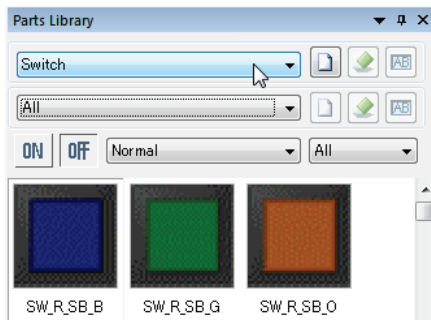
Draw the parts that function as switches.

■ Drawing

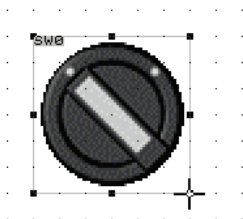


◆ Procedure

1. Use the library switching list in the parts library to select [Switch].

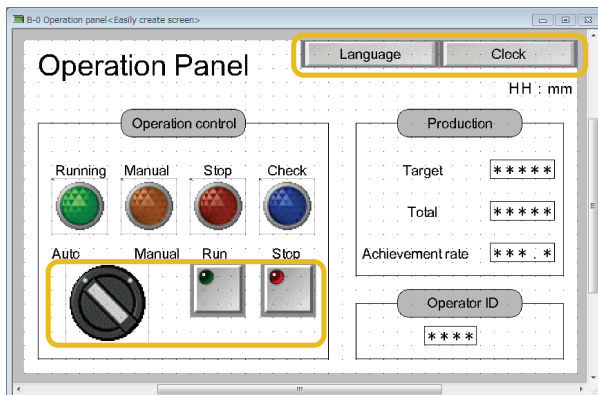


2. Drag a lamp switch part from the parts library to the base screen.
3. SelectSW0, the lamp switch part that you have placed on the screen.
4. Drag one of the ■ marks displayed in the corners of the part to change its size.



■ Completed area (switch parts are placed)

The sections surrounded by the yellow lines indicate the completed areas through this procedure.



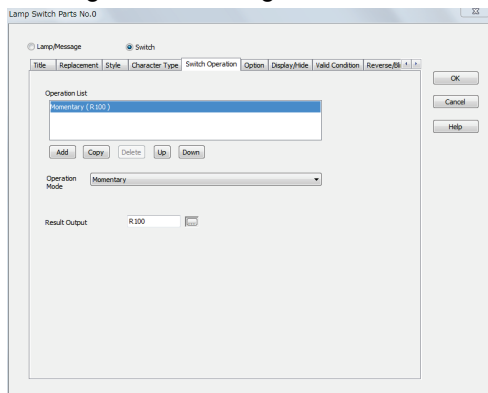
■ Setting part attributes



◆ Procedure

1. Double-click the lamp switch part whose attributes you want to set.

A dialog box for setting its attributes is displayed.



2. Set the necessary attributes.

Part number	Part attribute	Replacement	Style	Font settings	Switch operation
SW0	Switch	Replacement Method: Lamp (ON/OFF) Device: R101	Select From Design Library, R_SE3_W	—	Operation Mode: Alternate Output Device: R101
SW1	Switch	Replacement Method: Not Replace	Select From Design Library, R_SB6_W	Character String: Eng/"Clock Setting"	Operation Mode: Change to GT Configuration/Clock Setting
SW2	Switch	Replacement Method: Not Replace	Select From Design Library, R_SB6_W	Character String: Eng/"Change Language"	Operation Mode: Change Screen Screen No.:2
SW3	Switch	Replacement Method: Lamp (ON/OFF) Device: R100	Select From Design Library, M_SB_G	—	Operation Mode: Bit Set Output Device: R100 Operation Mode: Bit Reset Output Device: R102
SW4	Switch	Replacement Method: Lamp (ON/OFF) Device: R102	Select From Design Library, M_SB_R	—	Operation Mode: Bit Reset Output Device: R100 Operation Mode: Bit Set Output Device: R102

- Settings that are not changed from the initial settings are listed as "-" or are omitted.



◆ Key Point

- You can also set the part attributes by selecting [Parts Attribute] in the context menu displayed when you right-click the part.

3.2.4 Drawing and Setting Data Parts

You can use data parts to display the contents of PLC memory.

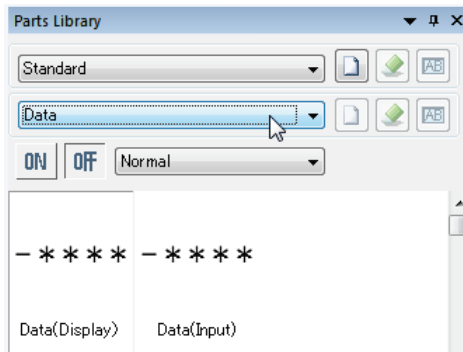
Also, by using these parts together with keyboard parts, you can enter data into the PLC.

■ Drawing



◆ Procedure

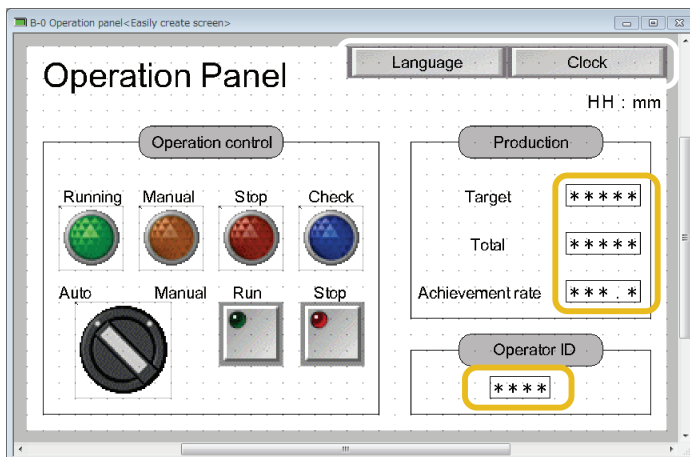
1. Use the library group switching list in the parts library to select [Data].



2. Drag a data part from the parts library to the base screen.
Data(display): For displaying data
Data(Input): For inputting data

■ Completed area (data parts are placed)

The sections surrounded by the yellow lines indicate the completed areas through this procedure.



■ Setting part attributes



◆ Procedure

1. Double-click the data part whose attributes you want to set.

A dialog box for setting its attributes is displayed.

2. Set the necessary attributes.

Part number	Basic setup	Input
DA0	No. of Digits: 5 Data Format: DEC (1 Word, Unsigned) Reference Device: DT100 Index modifier: No Font and Size/Number of Dots: 26	Input: Off
DA1	No. of Digits: 5 Data Format: DEC (1 Word, Unsigned) Reference Device: DT101 Index modifier: No Font and Size/Number of Dots: 26	Input: Off
DA2	No. of Digits: 4 Data Format: DEC (1 Word, Unsigned) Reference Device: DT102 Index modifier: No Display Decimal Places: On/Decimal Places 1 digit(s) Font and Size/Number of Dots: 26	Input: Off
DA3	No. of Digits: 4 Data Format: DEC (1 Word, Unsigned) Reference Device: DT103 Index modifier: No Font and Size/Number of Dots: 26	Input: On Startup Condition: Press Supported Keyboard: Keyboard Screen 0

3.2.5 Drawing and Setting Clock Parts

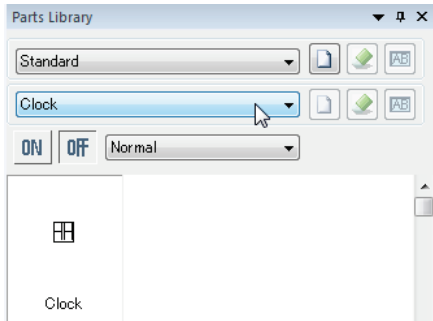
Draw the parts that display the clock.

■ Drawing




◆ Procedure

1. Use the library group switching list in the parts library to select [Clock].



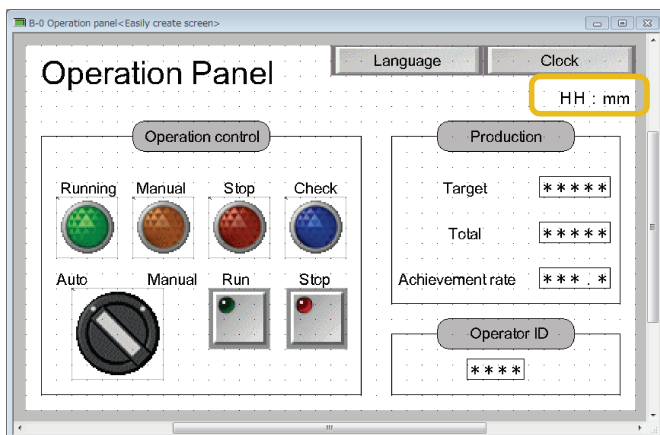
2. Drag a clock part from the parts library to the base screen.

One clock part is required for each of the year, month, day, hour, minute, second, and day of week. Repeat these steps as many times as the required number of clock parts.

3. Select  on the drawing toolbar, and then select all the placed clock parts.
4. On the [Edit] menu, point to [Align], and then select the required alignment position on the menu that is displayed.

■ Completed area (clock parts are placed)

The section surrounded by the yellow line indicates the completed area through this procedure.



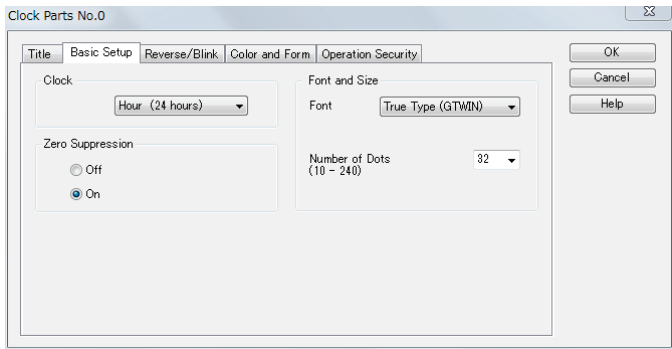
■ **Setting part attributes**



◆ **Procedure**

1. Double-click the clock part whose attributes you want to set.

A dialog box for setting its attributes is displayed.



2. Set the necessary attributes.

Part number	Basic setup
CL0	Clock: Hour (24 hours) Font and Size/Number of Dots: 24
CL1	Clock: Minute Font and Size/Number of Dots: 24

3.2.6 Drawing Character Strings

Draw the character strings that will be displayed on the screen.

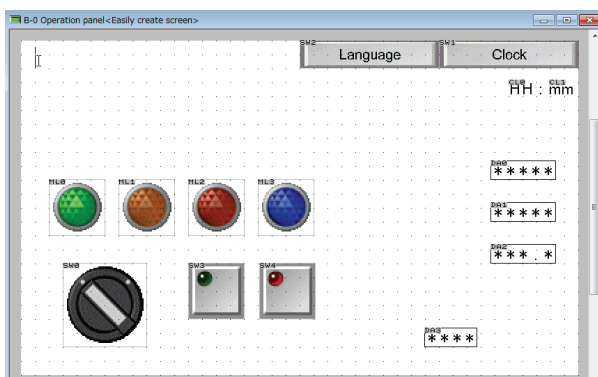
■ Drawing



◆ Procedure

1. On the [Draw] menu, select [Character String].
2. Place the position on the base screen where you want to place the character string.

You can now enter the characters.



3. Enter the desired characters.
4. Right-click or press the <Esc> key to confirm the entered characters.

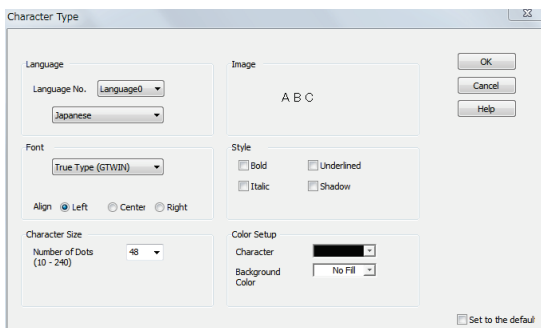
■ Font/graphic settings



◆ Procedure

1. Select a character string that you have placed on the screen.
2. On the [Draw] menu, select [Character Type].

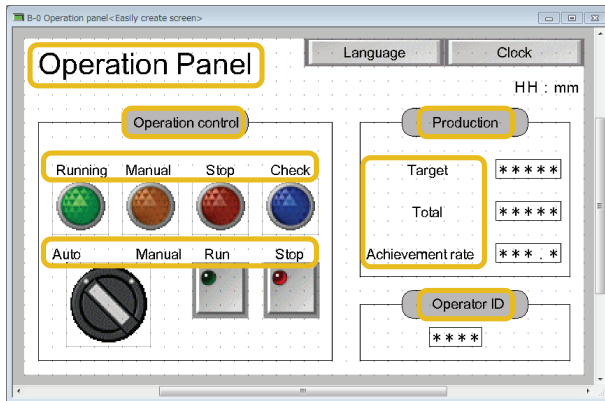
The [Character Type] dialog box is displayed.






3. Set the character size and the character color.

■ Completed area (character strings are placed)

The sections surrounded by the yellow lines indicate the completed areas through this procedure.



◆ Key Point

- You can also use  on the drawing toolbar to place character strings.
- You can also configure font settings by selecting [Font] in the context menu displayed when you right-click a character string or by clicking  on the drawing toolbar.
- If you click  on the drawing toolbar, and then configure font settings with no part selected, this will become the default for the future character strings that you draw.

3.2.7 Drawing Graphics

Draw graphics such as rectangles.

■ Drawing

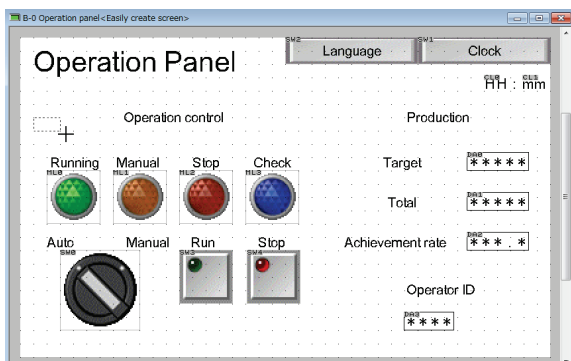


◆ Procedure

Draw the square frame around the group of parts under the "Operation control" label.

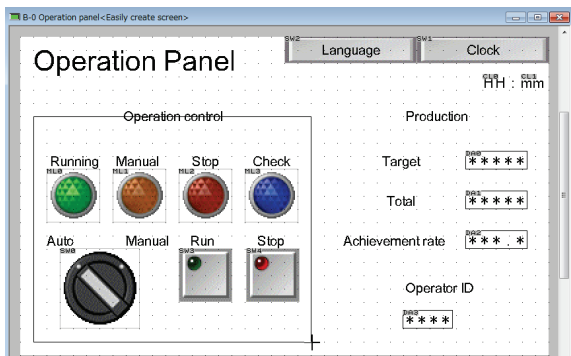
1. On the [Draw] menu, select [Rectangle/Rounded Rectangle].
2. Place the position on the base screen where you want to place the rectangle.

This confirms the starting point of the rectangle.



3. Decide on the ending point of the rectangle, and then click it.

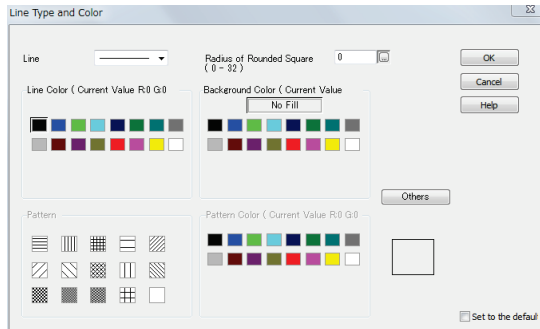
The rectangle is drawn.



■ Font/graphic settings

1. Select the graphic that you have placed, and then select [Line Type and Color] on the [Draw] menu.

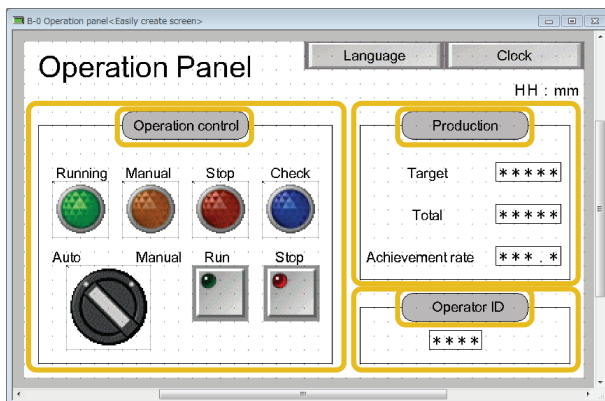
The [Line Type and Color] dialog box is displayed.






2. Configure settings such as the line type and line color.

■ Completed area (graphics are placed)

The sections surrounded by the yellow lines indicate the completed areas through this procedure.



◆ Key Point

- You can also use  on the drawing toolbar to place rectangles.
- You can also configure graphic settings by selecting [Line Type and Color] in the context menu displayed when you right-click a graphic or by clicking  on the drawing toolbar.
- If you click  on the drawing toolbar, and then configure the graphic settings with no part selected, these will become the default for the future graphics that you draw.

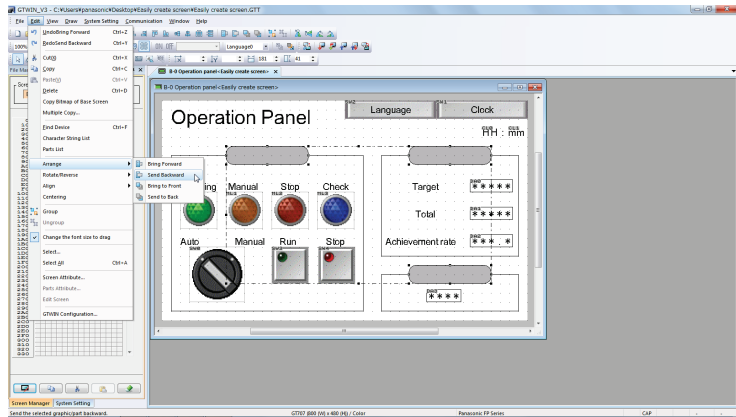
■ Changing the layout arrangement order of graphics

As an example, this section will explain how to send a graphic backward in the situation where the graphic is in front of the character strings.

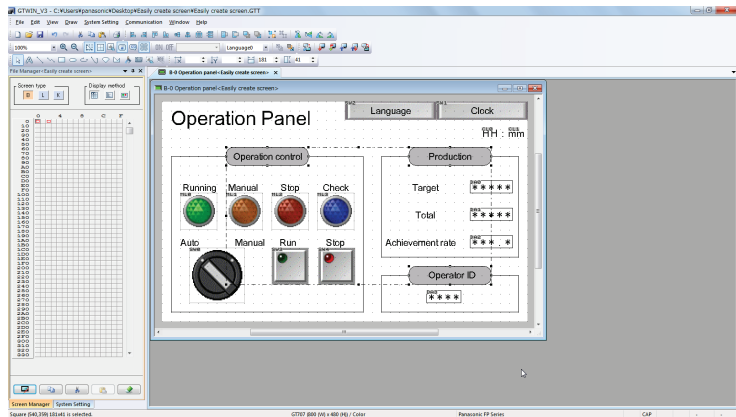


◆ Procedure


1. **Select the graphic whose layout arrangement order you want to change. Then, on the [Edit] menu, point to [Arrange], and then select [Send Backward].**



The graphic moves behind the character strings, which makes the character string visible.



◆ Key Point

- You can also change the layout arrangement ordering by selecting **[Arrange]** in the context menu displayed when you right-click a graphic or by clicking one of  on the editing toolbar.

3.3 Creating the Password Entry Screen (Keyboard Screen: K-0)

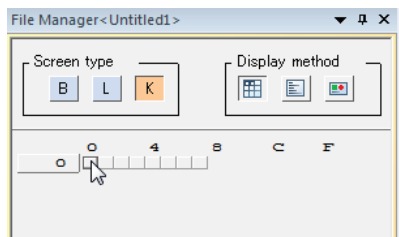
3.3.1 Creating the Keyboard Screen

Draw the keyboard parts to use in entering the numeric values that you want to display with data parts. This section explains the procedure for placing data parts and keyboard parts on the keyboard screen (K-0).

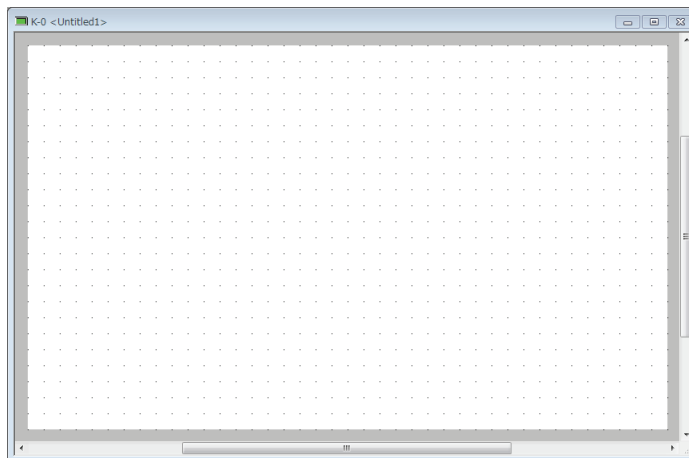


◆ Procedure

1. Select **[K]** under **[Screen type]** in the file manager, and then double-click the button for screen number 0.



Keyboard screen 0 is created.



2. Draw a character string.
3. Select the desired data part from the parts library, and then place the part.

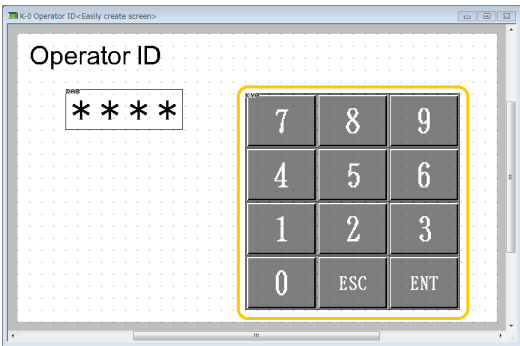
The data parts are in the **[Standard]** library of the parts library.

4. Select the keyboard parts from the parts library, and then place these parts.

The keyboard parts are in the [Standard] library of the parts library.

■ Completed area (keyboard parts are placed)

The section surrounded by the yellow line indicates the completed area through this procedure.



3.3.2 Setting Keyboard Parts

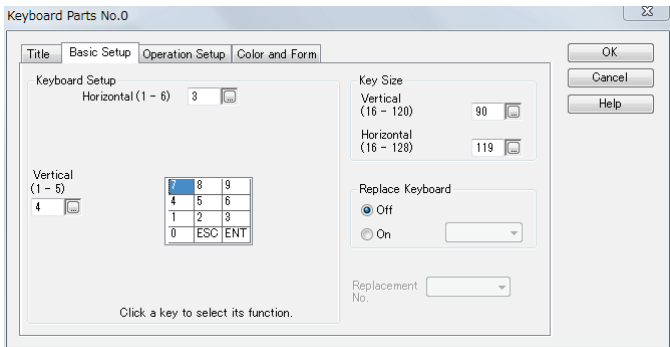
This section explains how to set the keyboard part attributes.



◆ Procedure

1. Double-click keyboard part KY0.

A dialog box for setting its attributes is displayed.



2. Change the number of keys and the size of the keyboard as necessary.



◆ Key Point

- In GTWIN Ver. 3, you can change the layout of the keys displayed on the [Basic Setup] tab in the [Keyboard Parts] dialog box by dragging these keys.

3.4 Creating the Language Switching Screen (Base Screen: B-2)

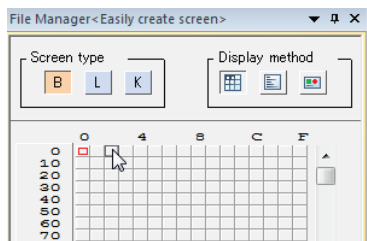
3.4.1 Creating the Base Screen

This section explains the procedure for placing switch parts on the base screen (B-2).

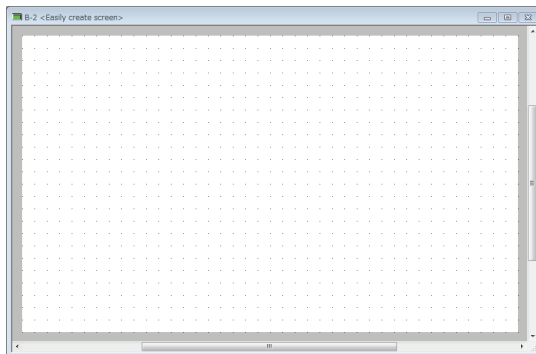


◆ Procedure

1. Select [B] under [Screen type] in the file manager, and then double-click the button for screen number 2.



Base screen 2 is created.

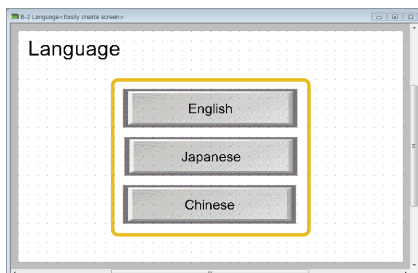


2. Draw a character string.
3. Select a switch part from the parts library, and then place three parts in total.

In this example, select [R_SB6_W] from the design library for each part.

■ Completed area (switch parts are placed)

The section surrounded by the yellow line indicates the completed area through this procedure.



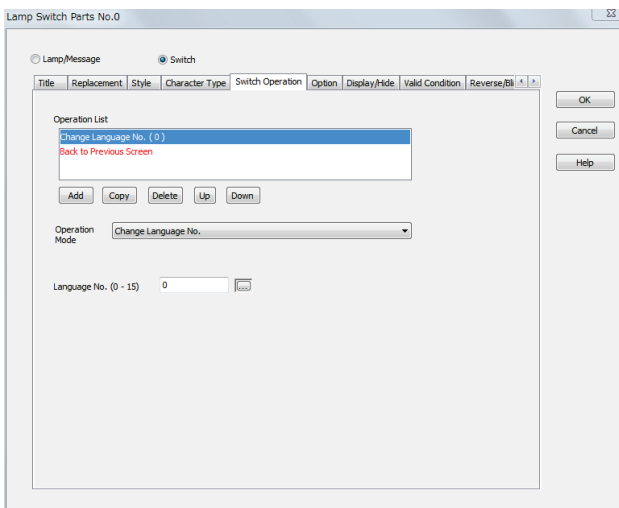
3.4.2 Setting Lamp Switch Parts

This section explains how to set, as attributes, the operations of the switches when they are selected.



◆ Procedure

1. **Double-click lamp switch part SW0.**
A dialog box for setting the attributes is displayed.
2. **Select the [Switch Operation] tab.**
3. **In the [Operation Mode] list, select [Back to Previous Screen].**
[Back to Previous Screen] is displayed under [Operation List].
4. **Press [Add].**
5. **In the [Operation Mode] list, select [Change Language No.].**
[Change Language No. (0)] is displayed under [Operation List].



6. **Configure the same settings for SW1 and SW2.**
In the [Language No. (0 - 15)] text box for SW1 and SW2, enter 1 and 2, respectively.



◆ Key Point

- You can use the [Add], [Copy], [Delete], [Up], and [Down] buttons to edit the operation mode.

3.4.3 Creating the List of Strings

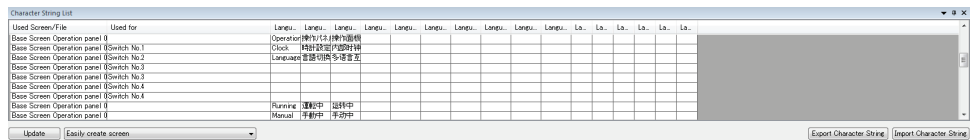
This section explains the procedure for using the list of strings function to enter character strings in English and to display these character strings.



◆ Procedure

1. On the [Edit] menu, select [Character String List].

The Character String List window is displayed.



2. Enter a character string in Japanese in the [Language1] column.

Language0	Language1	Language2
Operation Panel	操作パネル	操作面板
Clock	時計設定	内部时钟设置
Language	言語切換え	多语言互换
Running	運転中	运转中
Manual	手動中	手动中

3. On the [View] menu, point to [Configuration], and then select [Language1].

The entered character strings are switched. They are now displayed in Japanese.



4. Adjust the positions of character strings, the font settings, and the positions/sizes of graphics and parts.

Select language number 0 before you configure the font settings.



◆ **Key Point**

- **You can also use the [Select Language Number] list on the display toolbar to switch the language number.**

4

Appendix

4.1 Useful Functions for Editing/Setting

4.1.1 Part Number/Part Attribute Display Function

You can switch between displaying and hiding part numbers and part attributes.



◆ Procedure

1. On the [View] menu, select [Parts No.] or [Parts Attribute].

■ Switch part



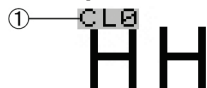
■ Lamp/message part



■ Data/bar graph part



■ Clock/keyboard part



Number	Switch part	Lamp/message part	Data/bar graph part	Clock/keyboard part
①	Part number			
②	Switch output device	Reference device for replacement operation	Reference device for data to display	—
③	Reference device for replacement operation	—	—	—

- For line graph parts and alarm list parts, the part number, group number, and reference device are displayed.



◆ Key Point

- You can also use the   icons on the display toolbar to switch the display of the part numbers/part attributes.

4.1.2 Find Device Function

In GTWIN Ver. 3, you can search through the devices used in the screen data. You can also change the device numbers in the Search Results window.



◆ Procedure

1. On the [Edit] menu, select [Find Device].

The [Find Device] dialog box is displayed.

2. Enter the device that you want to search for, and then press [Search].

The device search begins. The results are displayed in the [Search Result] window.

Device	Used for	Used Screen/File
R10X (Bit)	Lamp / Message No.2 Replacement	Base Screen, Operation panel 0
R10X (Bit)	Switch No.3 Result Output	Base Screen, Operation panel 0
R10X (Bit)	Switch No.4 Replacement	Base Screen, Operation panel 0
R10X (Bit)	Switch No.4 Result Output	Base Screen, Operation panel 0

3. To change the assigned device, double-click the device number field.

The [Device Setting] dialog box is displayed.

4. Change the device, and then press [OK].



◆ Key Point

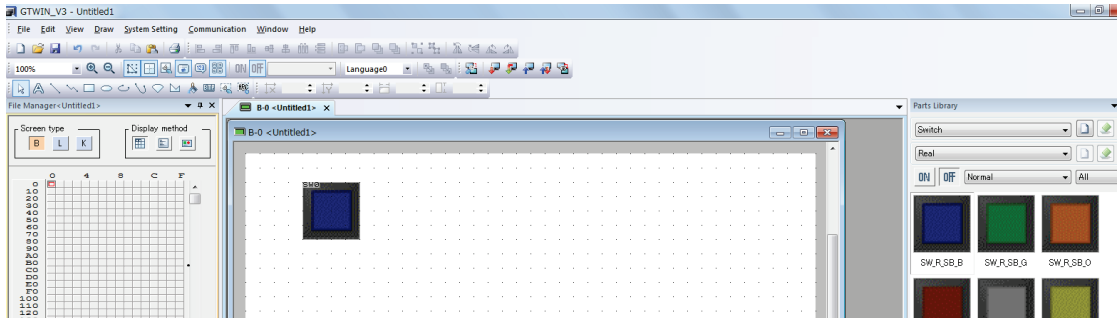
- You can display the attributes dialog box for the assigned part by double-clicking the field in the [Used for] column.

4.1.3 Part Style Change Function

In GTWIN Ver. 3, you can easily change the style of parts that you have placed. You can transfer the set attributes of the part as-is, which enables flexible support of design changes.

■ Design changes of lamp switch parts

The following section explains the procedure for converting a switch part that has been placed from the [Switch] library into a switch of a different design.

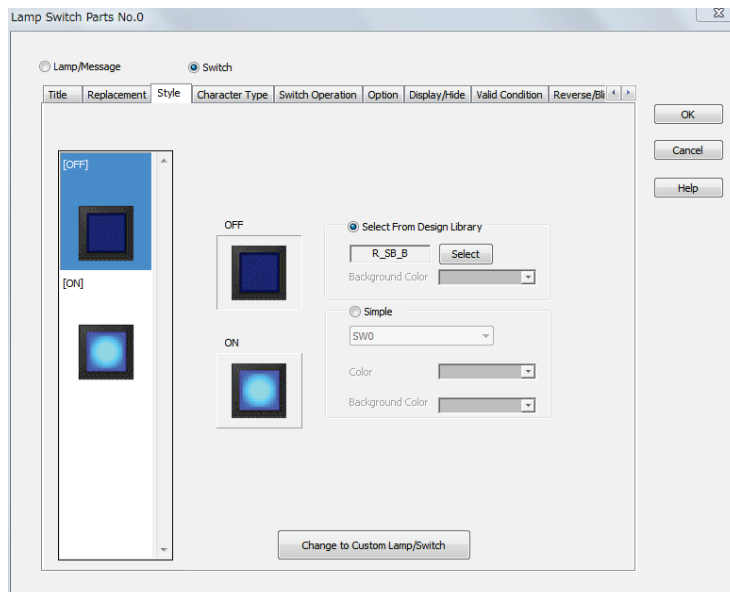


◆ Procedure

1. Double-click a part that has been placed.

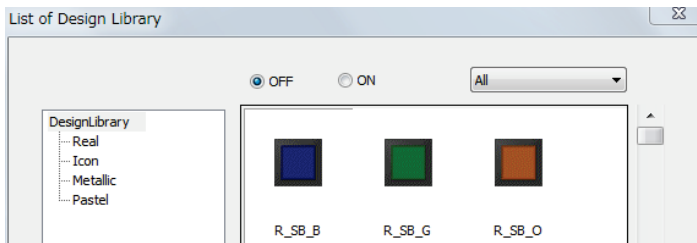
The [Lamp Switch Part] dialog box, which can be used to set part attributes, is displayed.

2. Select the [Style] tab.



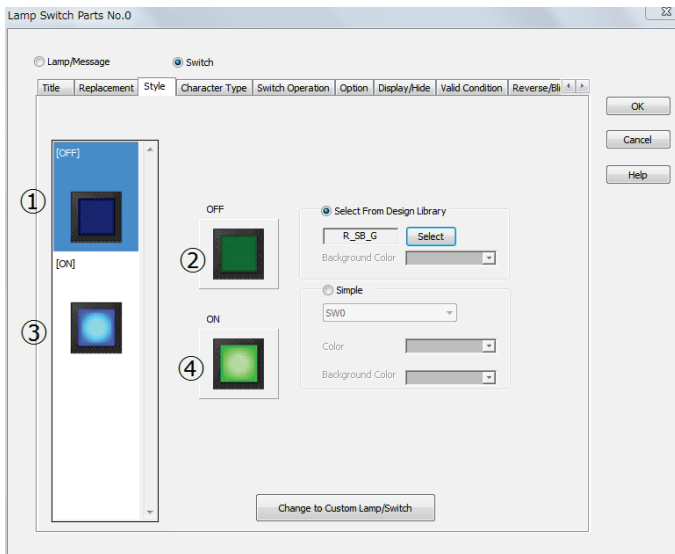
3. Select [Select From Design Library], and then press [Select].

The design library opens.



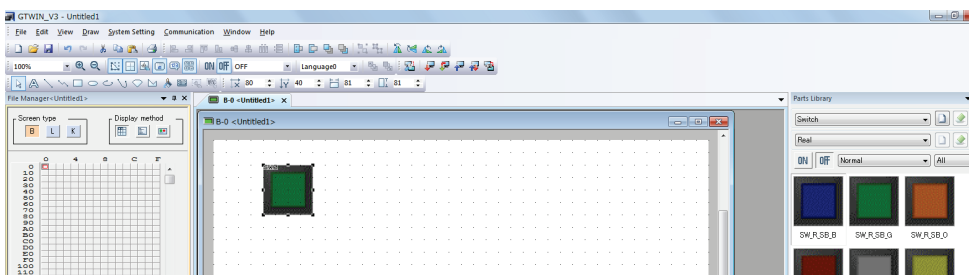
4. Select the design to convert to, and then press [OK].

The selected design is displayed in the [Lamp Switch Part] dialog box.



5. Press the items in the order specified by the numbers in the above figure to alternately select the style before and after the conversion, and then press [OK].

The style after the conversion is applied. Press [OK] to confirm the conversion.

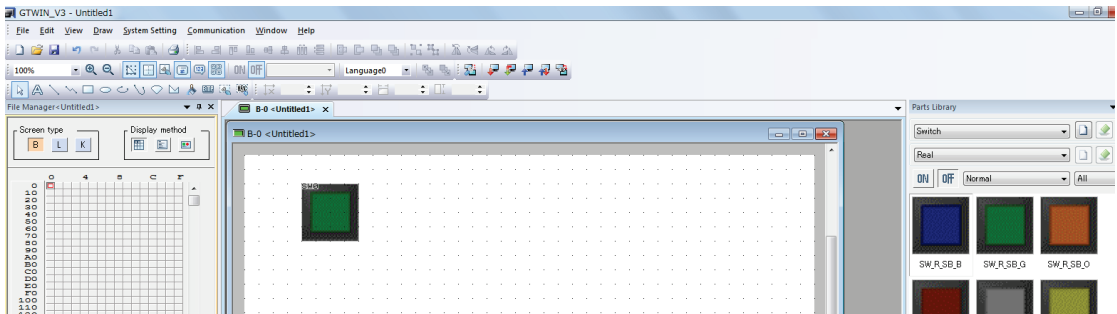


◆ Key Point

- The part attributes before the conversion are transferred as-is to the part after the conversion.
- You can switch which design is OFF and which is ON by switching the order in which you select the items in step 4.

■ Converting switch parts to lamp/message parts and vice-versa

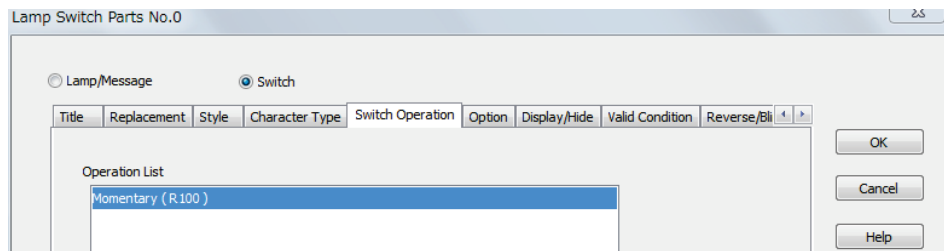
The following section explains the procedure for converting a switch part that has been placed from the [Switch] library into a lamp/message part.



◆ Procedure

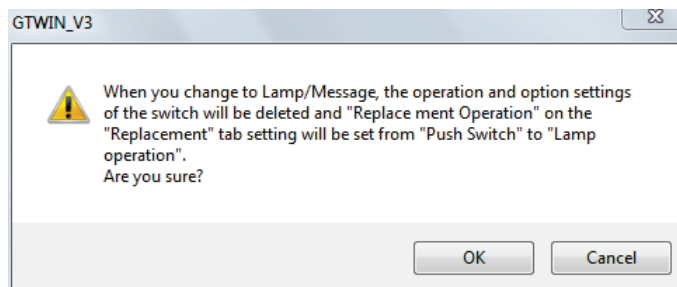
1. Double-click a part that has been placed.

The [Lamp Switch Part] dialog box, which can be used to set part attributes, is displayed.



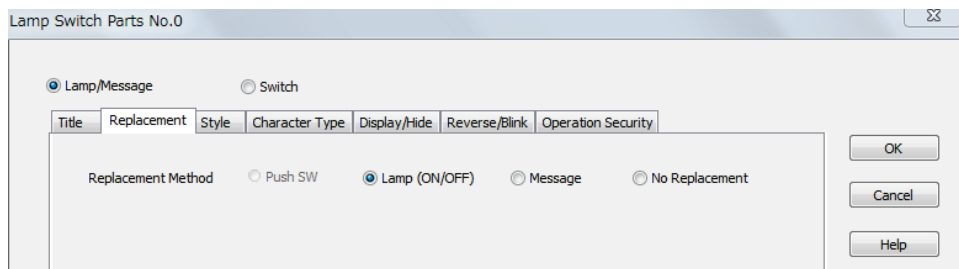
2. Select [Lamp/Message].

A cautionary message informing you of the conversion from the switch part to the lamp/message part is displayed.



3. Press [OK].

The part is converted to a lamp/message part, and the attribute settings in the dialog box are also converted.



4. Press [OK].

The style and attributes after the conversion are applied to the part.



◆ Key Point

- **When you convert a switch part to a lamp/message part, the [Switch Operation], [Option], and [Valid Condition] attributes set on the switch part are lost.**
- **You can use the same procedure to convert a lamp/message part to a switch part.**
- **When you convert a lamp/message part to a switch part, the [Switch Operation], [Option], and [Valid Condition] attributes set on the switch part are set to their default values.**

■ Converting lamp switch parts to custom parts

The following section explains the procedure for converting a switch part that has been placed from the [Switch] library into a custom part.

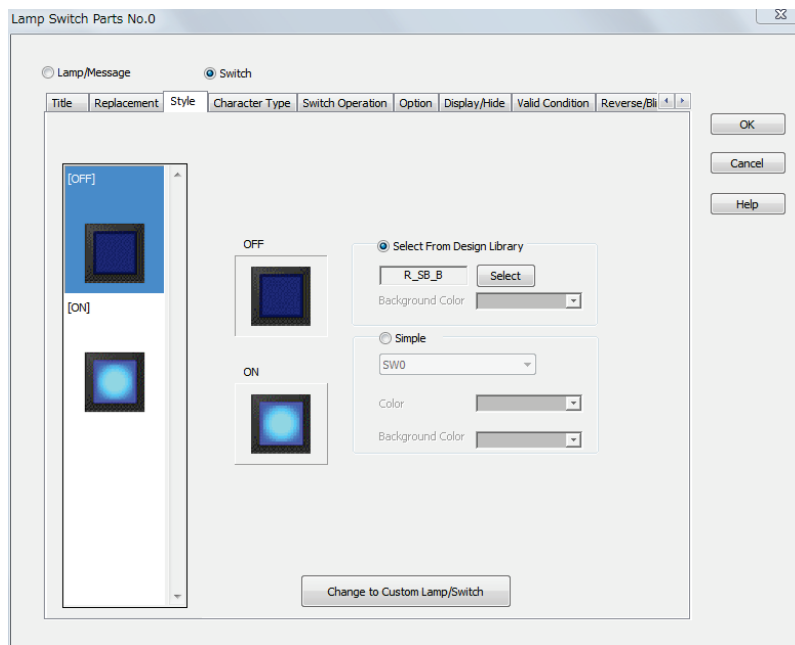


◆ Procedure

1. Double-click a part that has been placed.

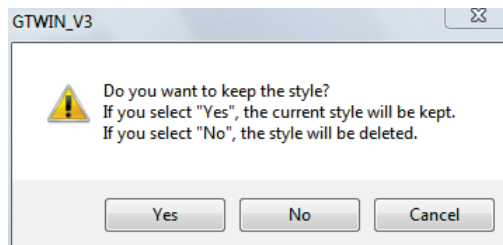
The [Lamp Switch Part] dialog box, which can be used to set part attributes, is displayed.

2. Select the [Style] tab.



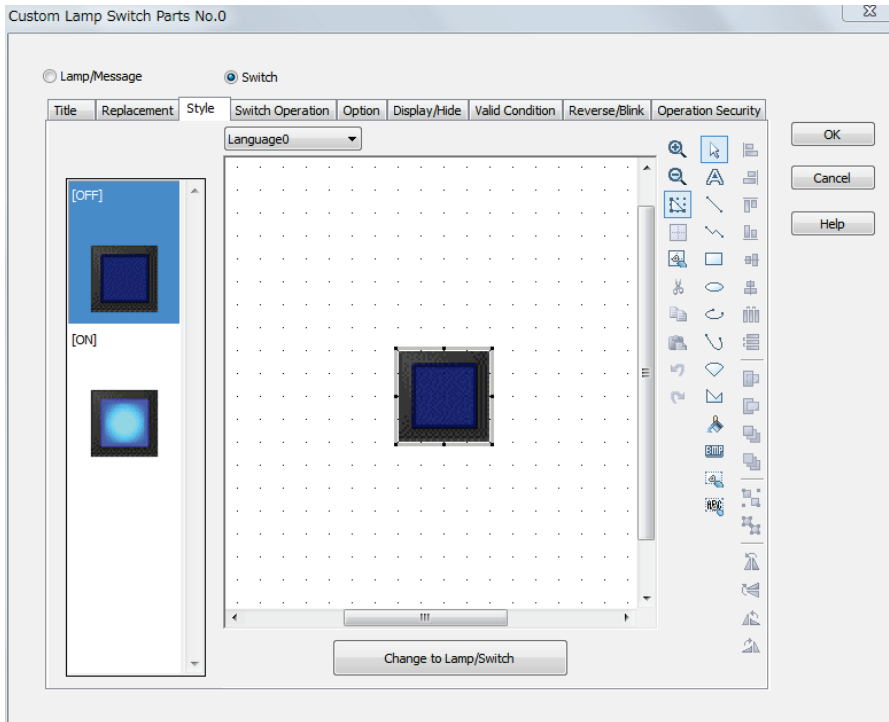
3. Press the [Change to Custom Lamp/Switch] button.

A message box for confirming the conversion method will be displayed.



4. To keep the displayed image, press [Yes]. To delete this image, press [No].

The conversion will be performed according to the method that you select, and then the details after the conversion will be displayed in the dialog box. The following figure shows an example of the displayed image being kept.



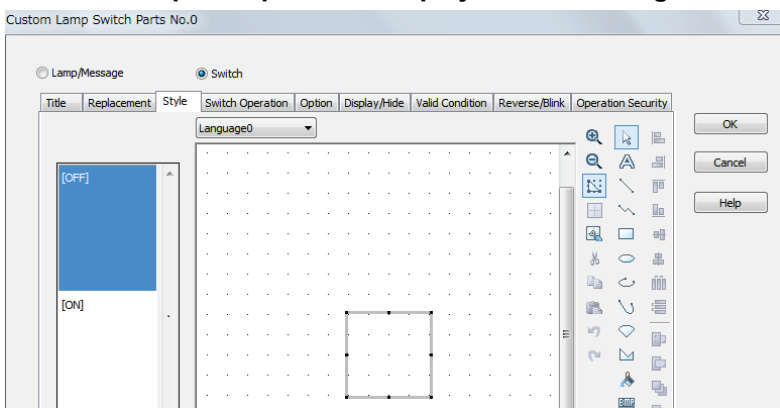
5. Press [OK].

The style and attributes after the conversion are applied to the part.



◆ Key Point

- The part attributes before the conversion are transferred as-is to the part after the conversion.
- If you press [No] in step 4, only the displayed image information is cleared, and the transparent parts are displayed in the dialog box and the screen.



- You can use the same procedure to convert a custom part to a non-custom part. The "Simple" style will be selected for the displayed image after conversion.

4.1.4 Custom Part Creation Function

You can use this function to create user-defined parts. You can edit custom parts with the following operations.

■ Creating custom parts

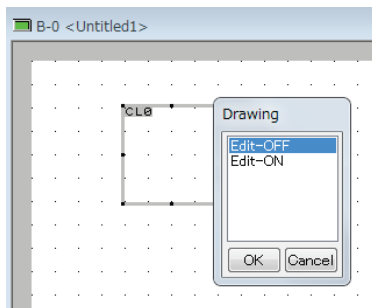
The following explanation assumes that a custom part has been placed on a base screen.



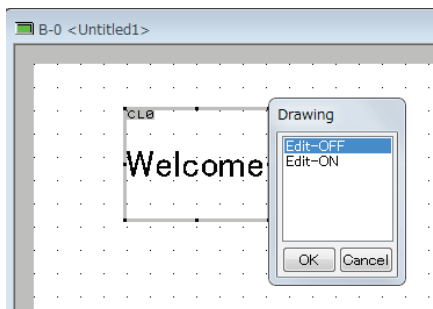
◆ Procedure

1. Click a placed custom part. Then, on the [Edit] menu, select [Edit Screen]. Alternatively, select [Edit Screen] in the context menu that is displayed when you right-click the part.

You can now edit the custom part.



2. Use functions such as drawing, text entry, and bitmap insertion to edit the design.



3. Press [OK].

The custom part is placed in the screen data.

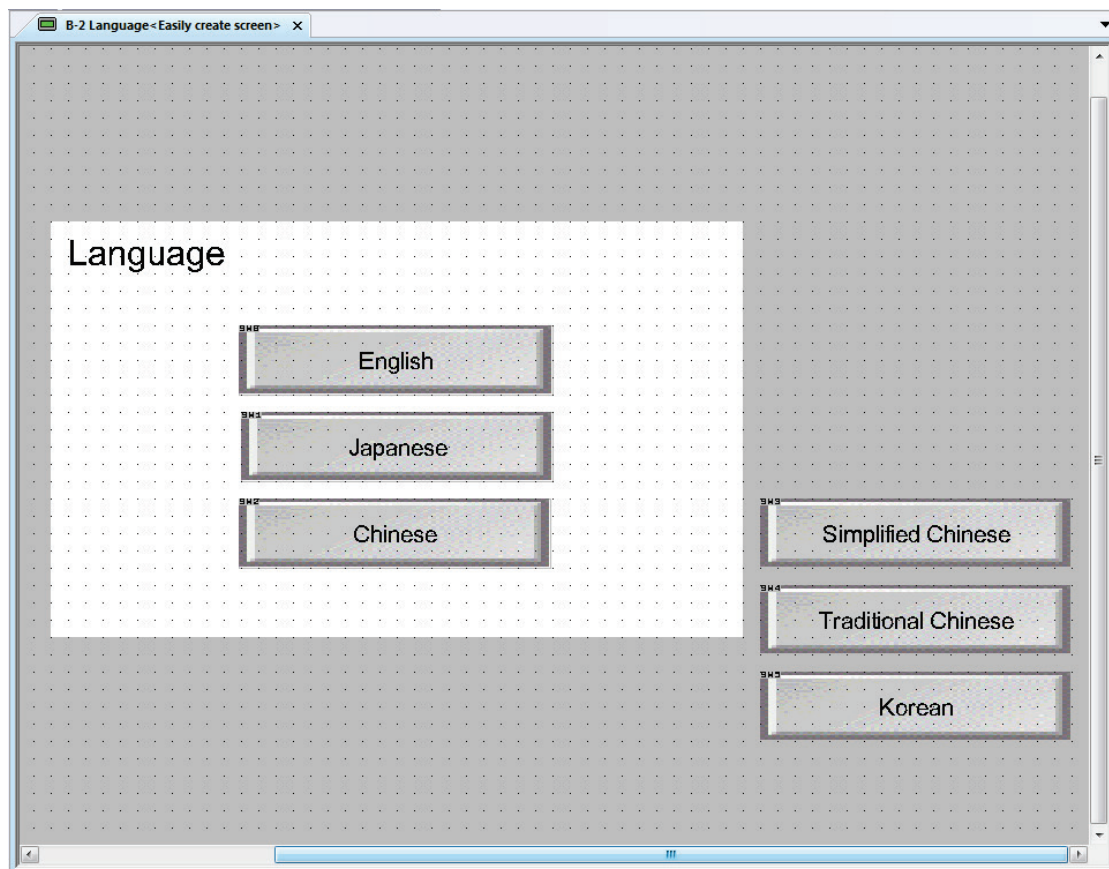


◆ Key Point

- Excluding the style, you can set the same part attributes for lamp switch parts registered to the parts library and for custom parts.
- For the conventional GTWIN Ver. 2 and GT-series, it was only possible to set over 16 replacements for custom parts. However, for GTWIN Ver. 3 and the GT707-series, it is possible to also set up to 256 replacement messages for standard message parts.

4.1.5 Tentative Part Placement Function

It is now possible to place parts outside of the display area of the editing screen. This enables the placement of parts in the margins, such as when you are creating a different editing screen as an option.



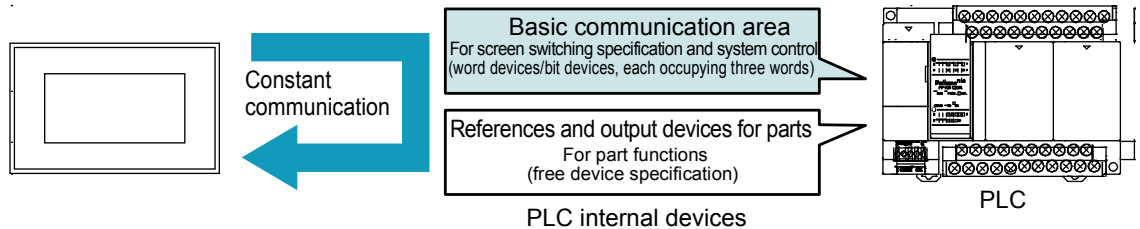
◆ Key Point

- When you are using the fill function, ensure that the section to be filled does not overlap the effective display area and the margin area. The section may not be filled correctly if it overlaps these two areas.

4.2 Basic Communication Area

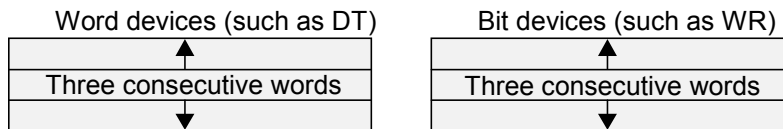
4.2.1 What Is the Basic Communication Area?

Communication is constantly being carried out between the GT and the PLC as shown below. The GT accesses PLC-side devices for two purposes.



■ Basic communication area

This area is for system control, such as screen switching settings. PLC devices are occupied on a fixed basis, and communication is constantly being carried out.



- Word device For reading and writing devices handled in word units (three consecutive words)
- Bit device For reading and writing devices handled in bit units (three consecutive words)

■ References and output devices for parts

- These are devices that are used in part functions and can be freely specified by the user. Communication is carried out on an ongoing basis only with those devices that are used on the screen currently in use.
- With the GT, before devices are specified for part functions by way of screen creation through GTWIN, the "basic communication area" must be determined.
- DT0 to DT2 and WR0 to WR2 are set as the default values for the basic communication area, but the initial address can be changed from the GT Configuration screen in GTWIN.



◆ Note

- Use the basic communication area in the PLC ladder program to control the GT.

4.2.2 Basic Communication Area Map

In order for communication to be carried out between the GT and PLC, a device area like that shown below is provided in the PLC. Use this to control the GT through the PLC ladder program actually being run.

The starting address "N" of the field shown below is specified in the GT configuration settings of GTWIN and is then sent to the GT.

■ Word devices

Word position	F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0
N + 0	Number of the screen specified by the PLC (area read by the GT from the PLC)															
N + 1	Usage prohibited															
N + 2	Number of the screen currently displayed (area written to the PLC by the GT)															

Explanation of the system area

- Number of the screen specified by the PLC: The number of the screen to display on the GT is specified by the PLC in hexadecimal.
- Number of the screen currently displayed: The number of the screen currently displayed on the GT is written to the PLC in hexadecimal.

■ Bit devices

Bit position	F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0
Digit position	3				2				1				0			
Byte position	Higher bytes								Lower bytes							
N + 0	BZ	Forced-display flag	Backlight enabled flag	Backlight blink			Touch sound disable flag		Backlight brightness							
N + 1	Usage prohibited															
N + 2											SD memory card inserted flag	Password screen display flag	Login screen display flag		BAT	Data input in progress flag

Explanation of the system area

① BZ	Turns on the buzzer.
② Forced-display flag	While the bit is on, the screen specified by the PLC is forcibly displayed. (While the bit is on, the screen cannot be changed with a switch part whose operation mode is set to [Change Screen].)
③ Backlight enabled flag	When the bit is turned on, the backlight blink control is enabled.
④ Backlight blink	0: Lit (normal) 1: Blink
⑤ Touch sound disable flag	Turning on the bit sets silent operation when touching the buttons.
⑥ Backlight brightness	Adjust the backlight brightness. 0000: No brightness adjustment in the basic communication area. 0001 to 1111: The brightness is adjusted according to the value. The larger the value the higher the brightness.
⑦ Data input in progress flag	This flag is 1 while data is being input and 0 when data input has been completed.
⑧ BAT	This turns on when the battery reaches the end of its service life and the clock data can no longer be maintained. The battery service life is detected when the GT turns on. If the GT is left on continually, the battery service life is not detected. (Note)
⑨ Login screen display flag	This flag is 1 when the login screen is displayed and 0 when the login screen is no longer displayed.
⑩ Password screen display flag	This flag is 1 when the screen for changing the password or for password management (for exclusive use by the administrator) is displayed and 0 when this screen is no longer displayed.
⑪ SD memory card inserted flag	This flag is 1 when an SD memory card is inserted in the SD memory card slot 0 when no SD memory card is inserted.

(Note): The dead battery mark is displayed in the lower right of the screen only when the [Battery Error Display] check box is selected under [Basic Setup] in the [GT Configuration] dialog box. The BAT flag activates regardless of the [Battery Error Display] setting.

Please contact

Panasonic Industrial Devices SUNX Co., Ltd.

■ Overseas Sales Division (Head Office): 2431-1 Ushiyama-cho, Kasugai-shi, Aichi, 486-0901, Japan

■ Telephone: +81-568-33-7861 ■ Facsimile: +81-568-33-8591

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