



Screen Creation Software for the GT Series

# Terminal GTWIN

## Operational Guide Book



Terminal GTWIN Operational Guide Book  
ARCT1F357E-5 '05.12



# Table of Contents

## How to Use GTWIN

### 1. Functions of Parts .....1-1

- 1.1 Screen Names of GTWIN ..... 1-2
- 1.2 Menu Bar ..... 1-3
- 1.3 Toolbar ..... 1-4
- 1.4 Screen Manager ..... 1-6
- 1.5 Parts Library ..... 1-7
- 1.6 Graphicbar ..... 1-8
- 1.7 Grid Settings ..... 1-9
- 1.8 Main Window Display Settings..... 1-10

### 2. Character Writing and Data Transfer .....2-1

- 2.1 Character Writing and Data Transfer ..... 2-2
  - 2.1.1 Editing Characters and Changing Background Color or Backlight Color 2-2
  - 2.1.2 Changing the Backlight Settings (Function for GT01 and GT11) ..... 2-6

### 3. How to Use the Parts Library .....3-1

- 3.1 “Standard” Parts Library – Switch Parts ..... 3-2
  - 3.1.1 Setting a Switch Part to the “Alternate” Operation Mode ..... 3-2
  - 3.1.2 Setting a Switch Part to “Momentary” Operation Mode ..... 3-5
  - 3.1.3 Setting Switch and Lamp Parts ..... 3-8
- 3.2 “Keyboard” Parts Library ..... 3-12
  - 3.2.1 Setting to Enter and Display Integer Values ..... 3-12
  - 3.2.2 Setting to Enter and Display Decimal Values ..... 3-15
  - 3.2.3 Specifying a Range of Value Entries ..... 3-18

3.2.4 Setting a Screen for a Value Entry and a Value Display.....	3-20
3.3 Standard Parts Library - "Custom" Parts Library.....	3-23
3.3.1 How to Create Switch Parts .....	3-23
3.3.2 How to Create Original Lamp and Message Parts.....	3-25
<b>4. Screen Switching .....</b>	<b>4-1</b>
4.1 Switching Between Screens .....	4-2
4.1.1 Using Function Switch Parts .....	4-2
4.1.2 Switching between Screens Using Switch Parts and the PLC Program.....	4-7
4.1.3 By Function Switch Parts and the PLC Program .....	4-11
<b>5. Practical Use (1).(For All GT Series).....</b>	<b>5-1</b>
5.1 Bar Graph Parts.....	5-2
5.1.1 Displaying a Bar Graph Utilizing the PLC Timer (Program).....	5-2
5.2 Clock Parts .....	5-5
5.2.1 Clock Function .....	5-5
5.3 How to Paste the Same Part Multiple Times .....	5-9
5.4 How to Convert GT Model for Screen Data .....	5-11
5.5 Multi-language Function .....	5-12
5.5.1 How to Input multiple languages using Windows®2000 or Windows®XP5-12	
5.6 Line Graph Parts.....	5-18
5.6.1 Line Graph Function .....	5-18
5.6.2 Sampling and Graphical Display of PLC Data at Specified Intervals ....	5-19
5.6.3 Reading PLC Devices in block and Displaying in Graph .....	5-25
5.7 Flow Display .....	5-28
5.7.1 Creating a Flow Display File .....	5-28

5.8 Write Device Function.....	5-30
5.8.1 Creating a Write Device File .....	5-30
5.9 Recipe Function .....	5-33
5.9.1 Controlling the Recipe File .....	5-34
5.9.2 How to Create a Recipe File .....	5-36
5.9.3 Handshaking by Write Device Function .....	5-40
<b>6. Practical Use (2)(For GT11/GT21/GT30).....</b>	<b>6-1</b>
6.1 Alarm List Parts.....	6-2
6.1.1 Alarm List Function .....	6-2
6.1.2 Setting to Monitor PLC Device Status at Specified Interval (Displaying Alarm History) .....	6-3
6.1.3 Displaying in a List the Existing Alarms (Active Alarm List) .....	6-9
<b>7. Practical Use (3)(For GT01/GT11/GT21).....</b>	<b>7-1</b>
7.1 Multi language Exchange.....	7-2
7.1.1 Function .....	7-2
7.1.2 Before You Use .....	7-2
7.1.3 How to create screens by using string list .....	7-3
7.1.4 How to create on the base screen for each part.....	7-6
7.1.5 How to change displayed language with switch .....	7-10
7.1.6 How to change displayed language from PLC.....	7-11

## Record of Changes

# Features of GTWIN

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## Screen creation tool!

GTWIN is a screen creation tool designed for the GT Series Programmable Operator Terminal made by Matsushita Electric Works, Ltd. Using GTWIN you can easily create images and design your own screen, similar to other illustrating software. In addition, GTWIN can transfer the screen data created to the Programmable Operator Terminal, receive data from the Programmable Operator Terminal and print out what you created.

## Plenty of display functions! Various screens can be created.

GTWIN has plenty of display functions. The parts for drawing a string or diagram, displaying a switch, lamp or data are registered. In addition, the screens created can be displayed in a bitmap picture. GTWIN promises that you can create convenient and functional screens.

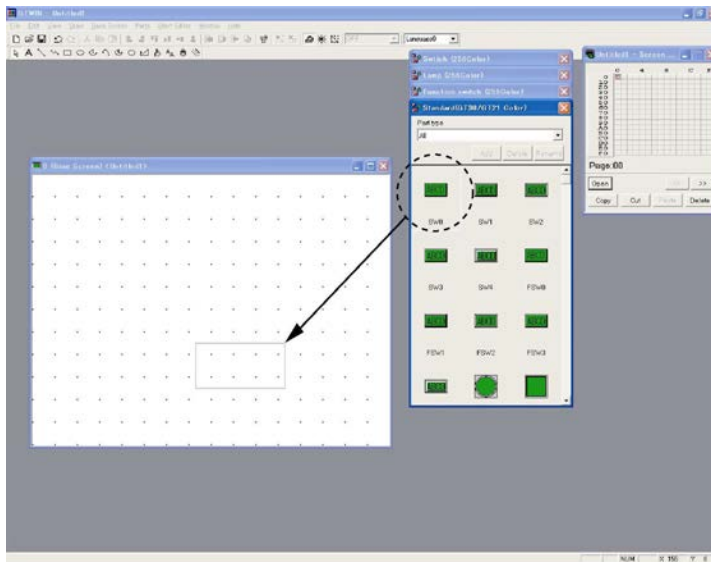
## Substantial drawing functions!

A pictorial representation can be realized at will.

GTWIN has substantial drawing functions similar to other drawing software on the market. You can write characters and draw various diagrams at will.

## Easy operation! (Drag and Drop)

Parts Library allows you to place parts by merely dragging and dropping. (drag and drop) It includes various display parts, e.g. "Switch Parts" for turning ON/OFF the PLC contacts by touch, "Data Parts" for displaying the values of the PLC devices, "Keyboard Parts" for renewing the values of the devices, etc.



Just drag and drop parts on the "Base Screen" window for placement.



### Reference:

<Parts List> (PDF data)

All the parts registered in the parts libraries can be referred as PDF data.

Select [Program]→[Panasonic MEW Terminal]→[GTWIN]→[Parts list] from the menu to be displayed by clicking the start button at the lower-left corner of the window.

## **Easy registration of your original parts!**

You can easily register your original parts in the user library for future use using drag and drop.

## **Printing function! What has been created can be printed.**

A preview function is available. In addition, you can print the screens created or select settings to print.

## **Bitmap copy function! What copied can be utilized for manuals.**

What has been created on the "Base Screen" window can be easily copied to a Clipboard as a bitmap type in one action.

You can paste them to a document, such as a manual made using another application software.

## **Easy-to-use! Bitmap editor**

A bitmap editor can create, read and edit bitmap data just like any other illustrating software. You can easily create an original screen display or read existing images.

# How to Use GTWIN HELP

This guidebook explains basic operations of GTWIN.

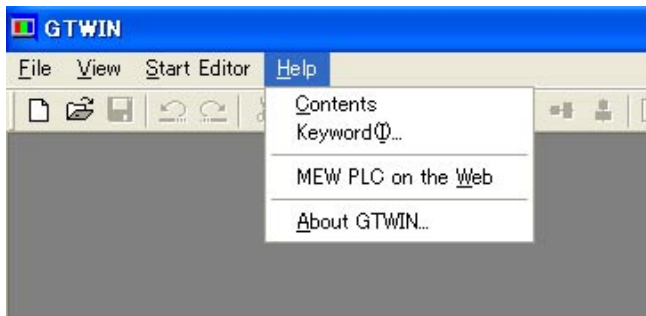
As for items not described in this guidebook, find answers to your questions on GTWIN HELP opened from the main menu.



## Note:

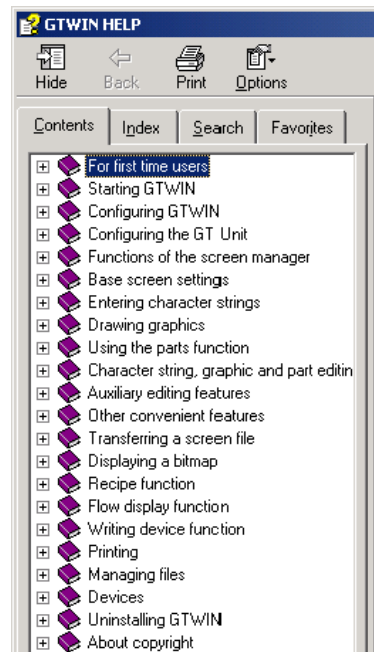
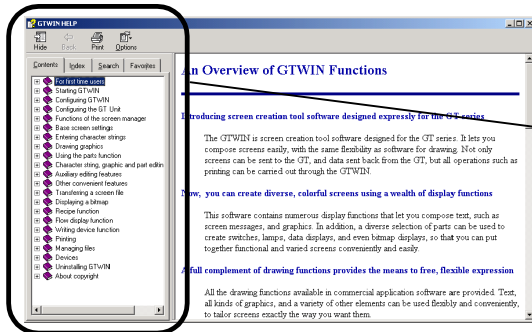
Please note that Internet Explorer Ver. 4.0 or later is required for viewing GTWIN HELP. If you do not have it, please download it from the website of Microsoft Corporation. (Especially note it if you are using Windows®95 or Windows NT®.)

Select [Help (H)] – [Contents] or [Keyword (I)] to start up the GTWIN HELP.



## 1. [Help (H)] – [Contents], GTWIN HELP - <Contents> tab: Browsing through topics by category

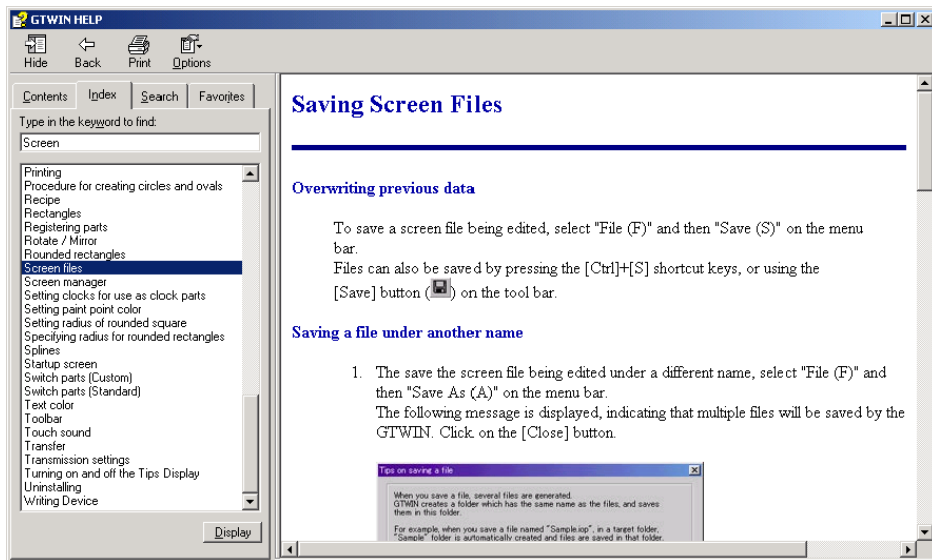
Select the topic in <Contents> tab in the left frame of the HELP window.





## 1. [Help (H)] – [Keyword (I)], GTWIN - <Index> tab: Finding a topic using a keyword

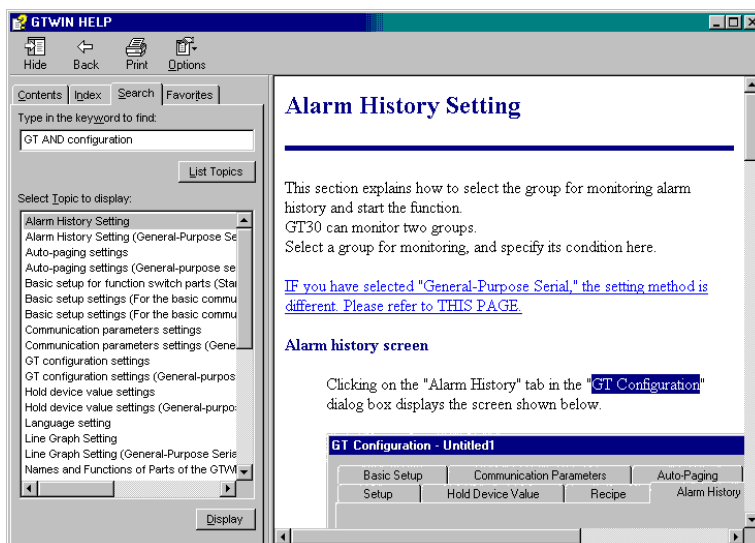
Frequently used keywords are registered in the <Index> tab. Type in the keyword you wish to find. Select a topic from the list associated with the keyword. This topic is then displayed in the right frame.



## 2. <Search> tab: Searching for words or phrases that may be contained in a HELP topic

Type in the keyword to find so that all the topics containing the typed keyword in the explanation are listed in the left frame. To find the topic that matches keywords, type in a space, "AND" and a space between the keywords. To find the topic that matches one keyword or another keyword, type in a space, "OR" and a space between the keywords.

(E.g.) Type in "GT AND configuration" in the text box. All topics containing "GT" and "configuration" in the explanation are listed in the left frame as shown below.



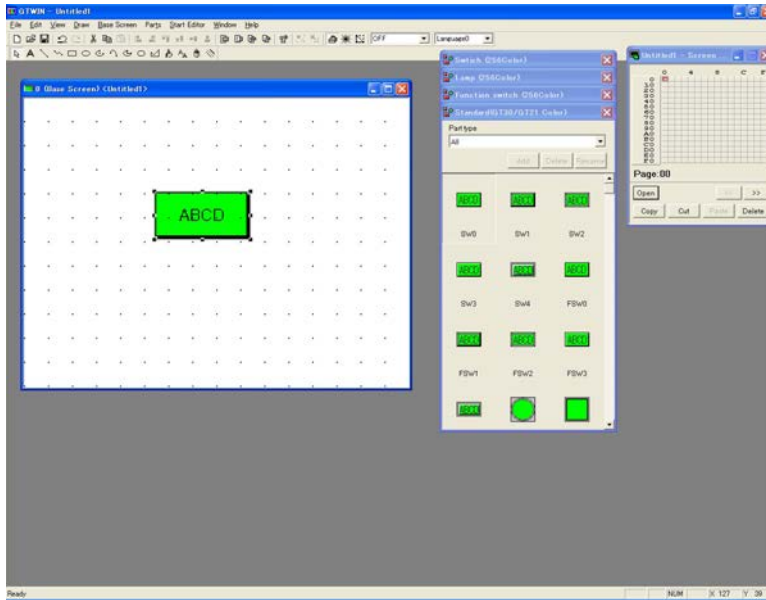
### 3. Finding answers using the F1 key

When you want to learn more about active GTWIN parts or dialog boxes, use the F1 key to display the associated HELP.

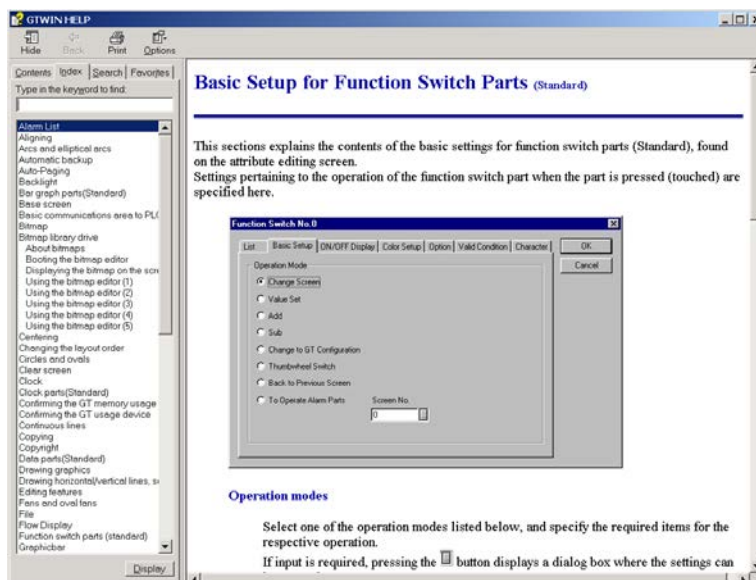
(Example 1) Learning more about parts

To learn more about the Function switch parts,

1. Drag and drop on the “Base Screen” window the Function switch part and press F1 key while it is active.



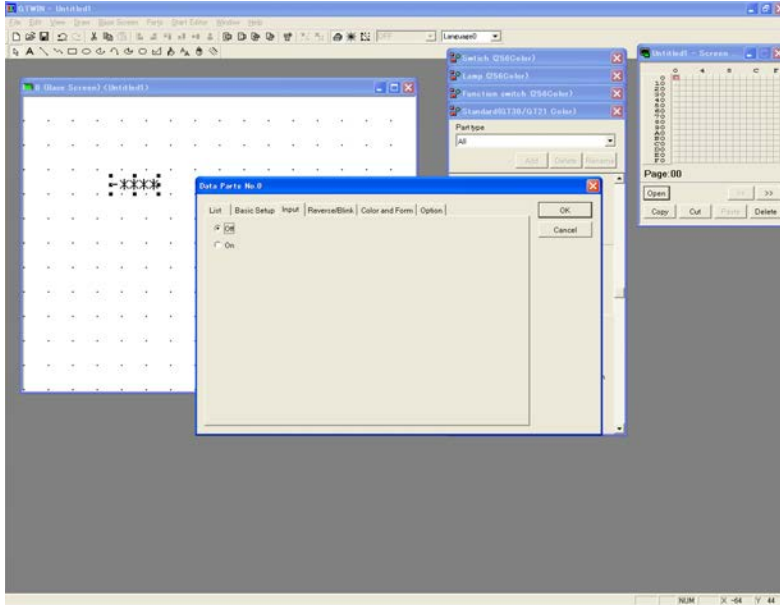
2. “GTWIN HELP” window for the Function switch parts is displayed.



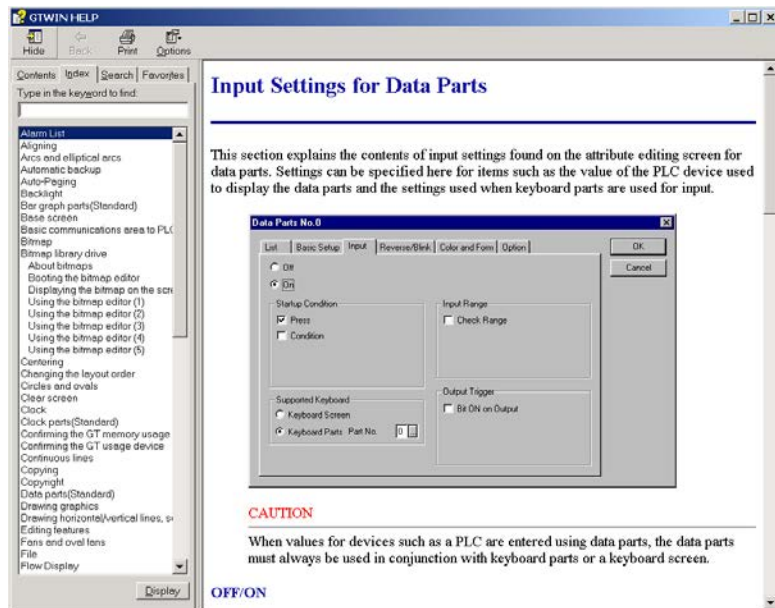
(Example 2) Learning more about a dialog box.

To learn more about a dialog box of Data parts,

1. Drag and drop on the “Base Screen” window the Data part and double-click it, so that the “Data Parts” dialog box is displayed. Click <Input> tab and press F1 key.



2. “GTWIN HELP” topics as for the input settings for Data parts can be viewed.



## New functions

New functions are available for the model and the version below.

	GT01	GT11	GT21	GT30
Display panel sideways setting	Ver1.0 or later	Ver1.0 or later	not available.	not available.
Line Graph parts	Ver1.0 or later	Ver1.0 or later	Ver1.0 or later	Ver2.0 or later
Alarm List parts, Alarm History parts	not available.	Ver1.0 or later	Ver1.0 or later	Ver2.0 or later
Recipe	Ver1.0 or later	Ver1.0 or later	Ver1.0 or later	Ver2.0 or later
Password	Ver1.0 or later	Ver1.0 or later	Ver1.0 or later	Ver2.0 or later
Flow Display	Ver1.0 or later	Ver1.0 or later	Ver1.0 or later	Ver2.0 or later
Write Device	Ver1.0 or later	Ver1.0 or later	Ver1.0 or later	Ver2.0 or later
Data parts: Decimal place display, Scaling	Ver1.0 or later	Ver1.0 or later	Ver1.0 or later	Ver2.0 or later
Multi language exchange	Ver1.2 or later	Ver1.0 or later	Ver1.0 or later	not available.



**Note:**

### 1. Impact by the OS installed in your PC

The functions of the font and the character style use the system in the Windows® OS. Accordingly, the display and size may vary slightly depending on the OS installed in your PC.

### 2. About the installation guide of GTWIN

The installation guide is carried by GTseries Technical Manual.

# Chapter 1

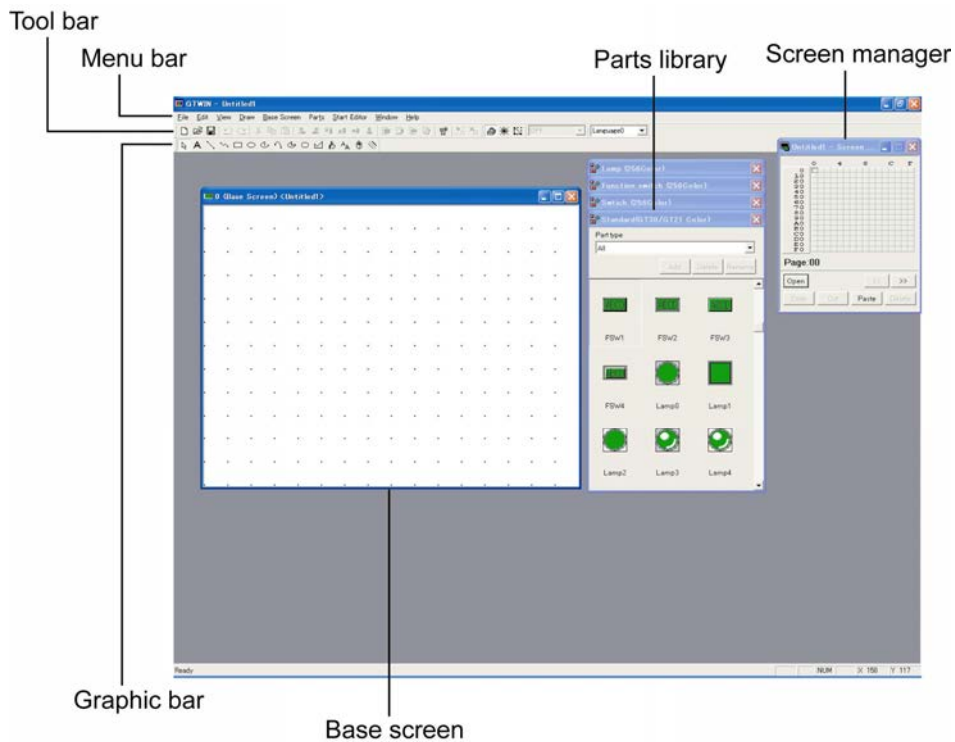
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## Functions of Parts

# 1.1 Screen Names of GTWIN

Start the GTWIN.  
Select [Create New File] from the start-up menu, and then select a model to display a start-up screen.  
Double-click any screen number button of the screen map on the screen manager to display a base screen.

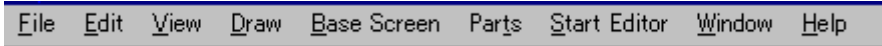
Each part name is as below.



## 1.2 Menu Bar

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All the operations and functions can be selected in the menu bar.



### **[File]**

Goes to the file-related operations, [Print]-related operations, [Transfer], [Configuration] etc.

### **[Edit]**

Goes to [Cut] for cutting diagrams, characters or parts, [Copy], [Paste], [Align] for aligning the objects, and the layout-related operations.

### **[View]**

Goes to the view-related operations such as [Grid] for setting a grid line on the “Base Screen” window, [Zoom] for changing a display magnification of an object, and [Toolbar] and [Statusbar] for showing them ON/OFF on the main window.

### **[Draw]**

Goes to the drawing-related operations for selecting what to draw on the “Base Screen” window, a character font and its color.

### **[Base Screen]**

Goes to the “Base Screen” window-related operations, such as [Screen Attribute] for setting the “Base Screen” attribute and [Memory Usage] for checking a memory usage.

### **[Parts]**

Goes to the parts-related operations, such as [Open Parts Library] for selecting and opening the “Parts Library” window and [Attribute] for setting the parts attribute.

### **[Start Editor]**

Goes to [Bitmap] for starting up a bitmap editor.  
[Recipe], [Flow Display] and [Write Device] are also available.

### **[Window]**

Goes to the window-displaying operations.

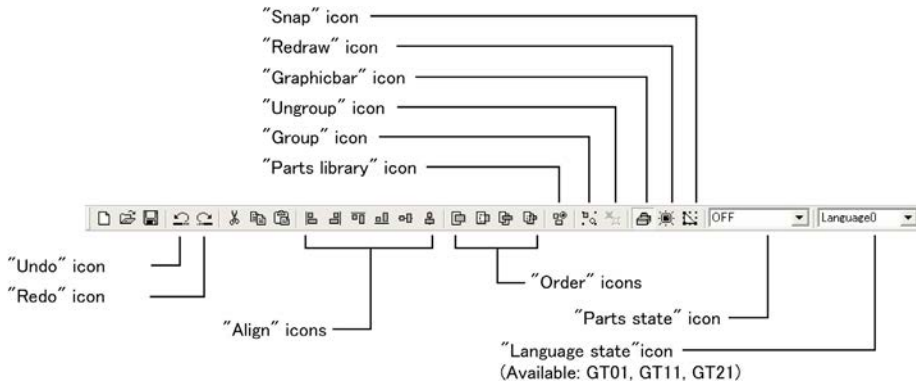
### **[Help]**

Goes to the GTWIN HELP and information of the GTWIN version.

# 1.3 Toolbar

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Names and functions of icons on the toolbar are as follows.



## “Undo” icon

Undoes the most recent action.

## “Redo” icon

Undoes the action undone by pressing the “Undo” icon.

## “Align” icons

Aligns multiple objects (characters, diagram, parts).

## “Order” icons

Brings an object to the front or sends it to the back if multiple objects overlap. (See note.)

## “Parts library” icon

Opens a “Parts Library” window.

## “Group” icon

Groups objects.

## “Ungroup” icon

Ungroups grouped objects.

## “Graphicbar” icon

Displays or hides the graphicbar.

## “Redraw” icon

Re-fills an area with the set color when some disappeared due to multiple windows overlapping.

## “Snap” icon

Enables or disables a snap function for placing objects.

## “Parts state” icon

Switches between ON and OFF the selected switch or lamp, or message parts numbers.

## “Language state” icon (GT01, GT11 and GT21)

Switches the language numbers of the selected base screen.





**Note:**

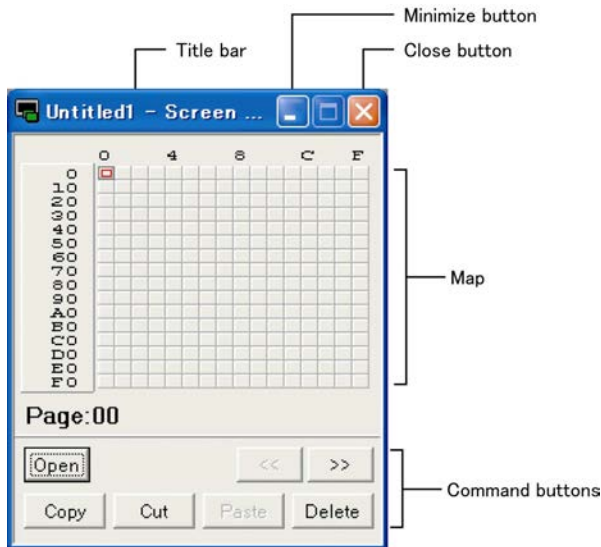
- “Undo” icon is available only for drawing and editing character strings, graphics and parts, or for some operation of each editor to be started from the menu bar. Note that any other operation cannot be undone.
- Characters and diagrams drawn on the “Base Screen” window always appear behind parts.

# 1.4 Screen Manager

The Screen Manager binds and manages multiple "Base Screen" windows in a single screen file. The "Screen Manager" window displays all the available "Base Screens" in a map or a list. Click your optional "Base Screen" No. on a map or a list, so that its "Base Screen" window is opened. What was created on the "Base Screen" window will be registered in the Screen Manger, enabling you to check what was created later on.

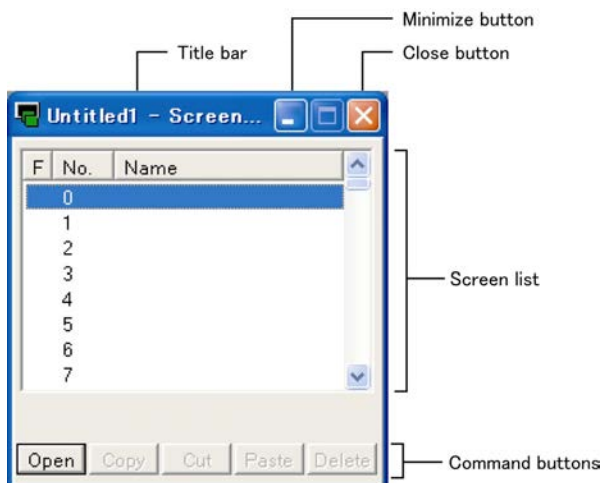
In addition, you can copy and paste the registered "Base Screen" to the other "Base Screen", or delete the registered one. Also, multiple "Screen Manager" windows can be opened simultaneously, enabling you to copy or move the objects between them.

## Map



Select [View] → [Screen Manager Display] → [List Method] from the menu bar to change to the list method.

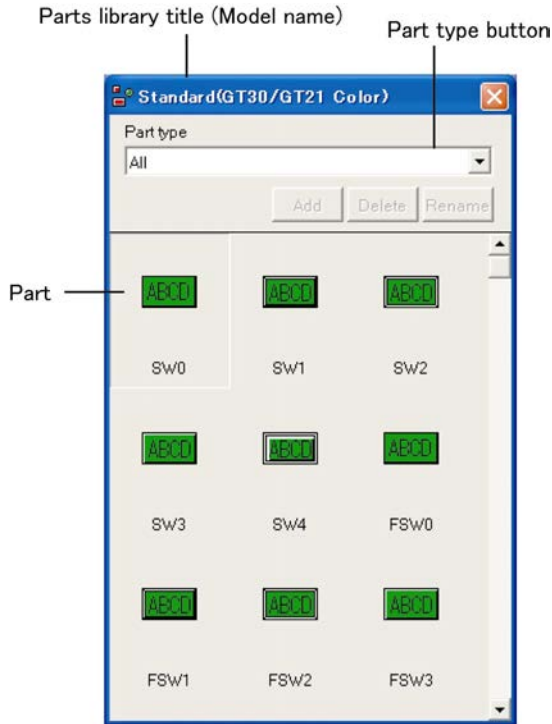
## List



# 1.5 Parts Library

Parts with functions such as switches, lamps, data displays and keyboards for the data input have been registered.

When starting up the GTWIN, the standard “Standard parts library” to be used for the specified model comes to the front of the screen.



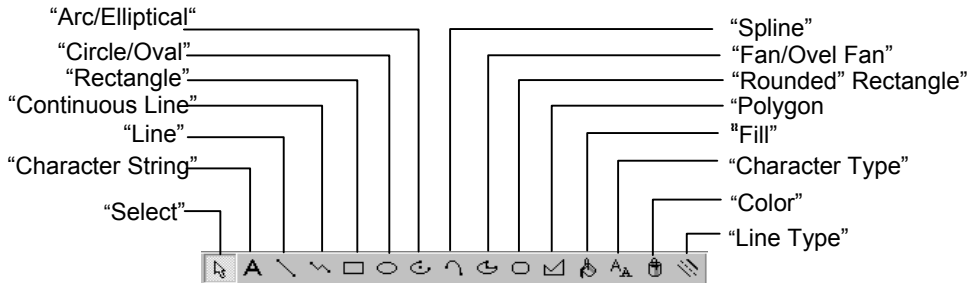
### [Part type]

The parts in the parts library can be displayed in the selected types or colors.

## 1.6 Graphicbar

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Names and functions of icons on the Graphicbar are as follows.



### **“Select” icon**

Selects characters, diagram or parts on the “Base Screen” window.

### **“Character String” icon**

Write characters on the “Base Screen” window.

### **“Line” icon**

Draws a straight line.

### **“Continuous Line” icon**

Draws lines continuously. (Double-click to end.)

### **“Rectangle” icon**

Draws a rectangle.

### **“Circle/Oval” icon**

Draws a circle or an oval.

### **“Arc/Elliptical Arc” icon**

Draws an arc circular or an elliptical arc.

### **“Spline” icon**

Draws a curve.

### **“Fan/Oval Fan” icon**

Draws a fan or an oval fan.

### **“Rounded Rectangle” icon**

Draws a rounded rectangle. (Select [Draw]-[Line Type] to set its radius value.)

### **“Polygon” icon**

Draws a polygon.

### **“Fill” icon**

Fills an area with the selected drawing color.

### **“Character Type” icon**

Changes a size or effects (bold, outlined, underlined etc.) of characters.

### **“Color” icon**

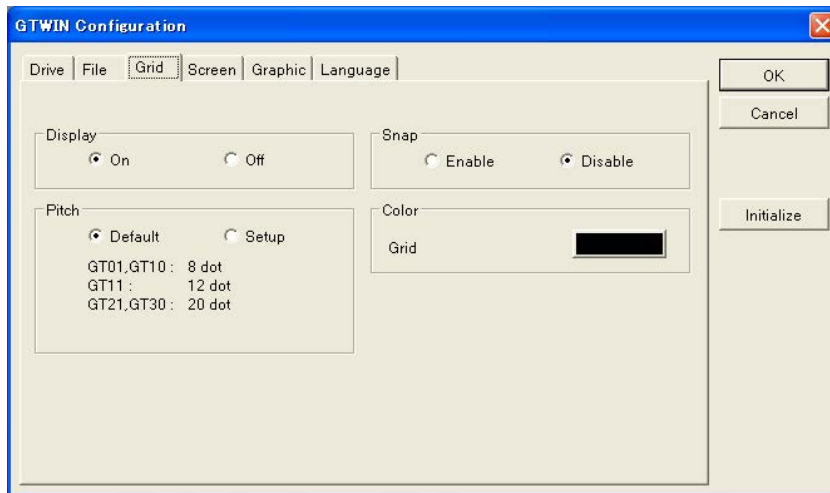
Changes a color of characters or drawings.

### **“Line Type” icon**

Sets a line type and a radius of a rounded rectangle.

## 1.7 Grid Settings

The items for grid settings of the “Base Screen” windows are as below.  
Select [File] - [Configuration] - [GTWIN Configuration] so that “GTWIN Configuration” dialog box is displayed. Click <Grid> tab;



### “Display”

Select “On” or “Off” to display or hide a grid on the “Base Screen” window.

“On”: Displays a grid on the “Base Screen” window.

“Off”: Hides a grid on the “Base Screen” window.

### “Pitch”

Sets an interval of a grid if “Display” is set to “On”. (2 to 80)

“Default” Fixes an interval of a grid both for X and Y directions.

GT01: 8 dots

GT11: 12 dots

GT21: 20 dots

GT30: 20 dots (an interval of the touch switch)

“Setup”: Sets an interval of a grid in X and Y directions each in dot units.

### “Snap”

Select “Enable” or “Disable” to turn ON or OFF the snap function. The snap function always makes the starting and ending points of the objects come on a grid.

“Enable”: Enables snap function.

“Disable”: Disables snap function.

### “Color”

Selects a color of a grid displayed on the “Base Screen” window.

“Grid”: Click a button to display the “Color” window and select your optional color.



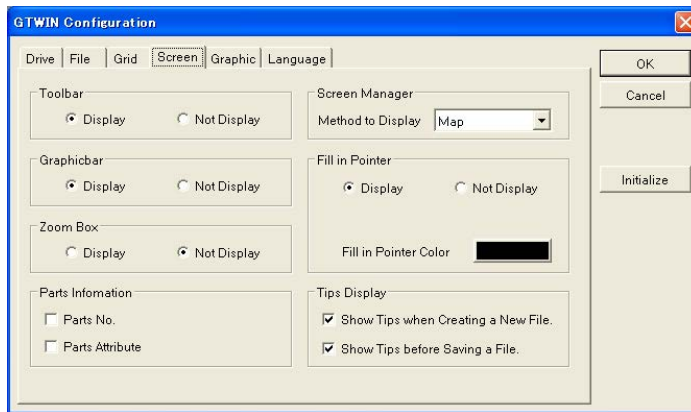
#### NOTES

- The “GTWIN Configuration” dialog box - <Grid> tab can be also displayed by pressing Alt + G.
- The snap function can be also turned ON/OFF using the “Snap” icon on the toolbar.

## 1.8 Main Window Display Settings

Display settings for the GTWIN main window are explained below.

Select [File] - [Configuration] - [GTWIN Configuration] so that “GTWIN Configuration” dialog box is displayed. Click the <Screen> tab;



### “Toolbar”

Sets whether or not to display the Toolbar on the GTWIN main window when GTWIN is activated. You can also control its display by selecting [View] - [Toolbar].

“Display”: Displays the Toolbar on the GTWIN main window when GTWIN is activated.

“Not Display”: Hides the Toolbar when GTWIN is activated.

### “Graphicbar”

Sets whether or not to display the Graphicbar on the GTWIN main window when GTWIN is activated. You can also control its display by selecting [View] - [Graphicbar].

“Display”: Displays the Graphicbar on the GTWIN main window when GTWIN is activated.

“Not Display”: Hides the Graphicbar when GTWIN is activated.


### “Zoom Box”

Magnifies a specific area of open base screen enabling you to check objects placed.

### “Parts Information”

Displays the address of the device or the PLC.


### “Screen Manager”

Displays the “Method to Display” in a map or a list. Click  to select Map or List.

### “Fill in Pointer”

Selects a color to fill enclosed areas.

### “Fill in Pointer Color”

Click  so that a “Color” window is displayed. Select a color.

### “Tips Display”

Sets whether or not to display “Tips” message for the following operations.

“Show Tips when Creating a New File.”: This specifies whether, when a new file is created, a message will be displayed reminding the user to specify the basic communication area with the PLC.

“Show Tips before Saving a File.”: This specifies whether or not a message will be displayed when a file is saved, reminding the user that multiple files will be saved to GTWIN.

## **Chapter 2**

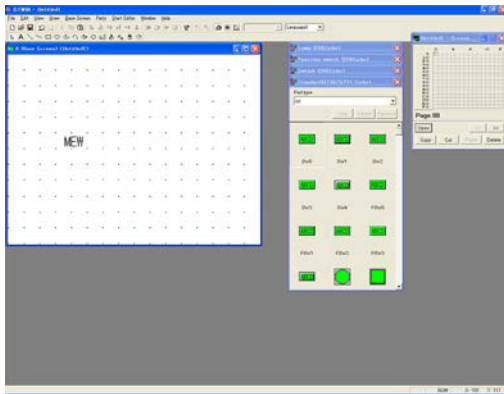
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# **Character Writing and Data Transfer**

## 2.1 Character Writing and Data Transfer

### 2.1.1 Editing Characters and Changing Background Color or Backlight Color

#### 1. Open the No. 0 “Base Screen” window and write characters.

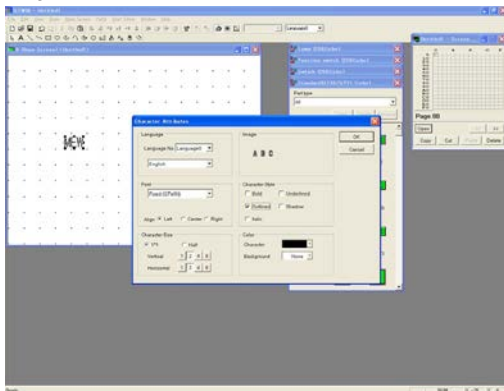



Click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

Click the “Character String” icon .

Write “MEW” on the “Base Screen” window, and click to fix.

#### 2. Double the character size (vertically and horizontally) and set the character style to “Outlined”.



Click “Select” icon, .

Click the “MEW” to select. Then, right-click it to open the menu and select [Character Type].

Set the following and click **OK**.

“Font” ---- “Fixed (GTWIN)”

“Character Size” ----

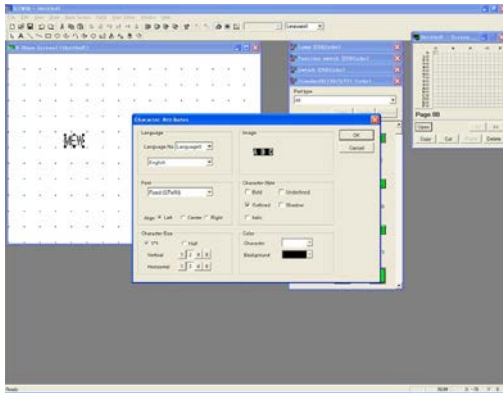
2 for “Vertical” and “Horizontal”

“Character Style” ---- “Outlined”

\* The character size can be selected in dot units for the True Type (GTWIN) and Windows (R) fonts.



### 3. Sets a color of characters.

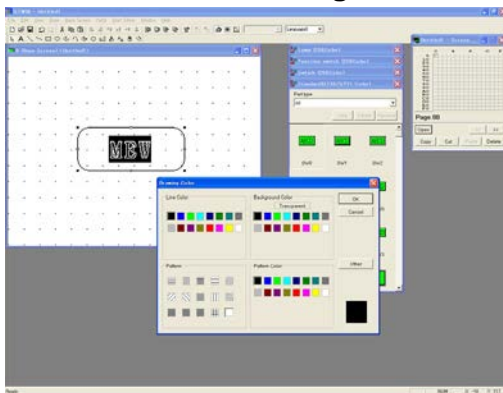



Choose the following settings and click **OK**.

**“Color”**  
“Character” ---- White  
“Background” ---- Black

\* The colors other than “White” and “Black” can be selected for the color types of GT21 and GT30.

### 4. Draw a rounded rectangle.



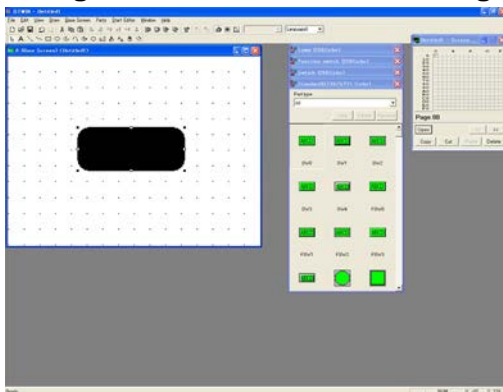
Click the “Rounded Rectangle” icon , circle “MEW” and click when finished.

Right-click the set rounded rectangle and select [Color] from the menu.

Choose the following settings and click **OK**.

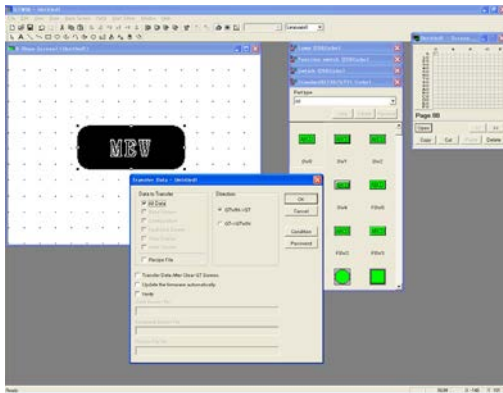
**“Background Color”** ---- Black

### 5. Bring to back the rounded rectangle.



Right-click anywhere on the black rounded rectangle to open the menu and click [Order]-[Bring Behind All].

**6. Transfer the created screen data to the Programmable Operator Terminal.**



Click [File]-[Transfer] so that “Transfer Data” window is displayed.

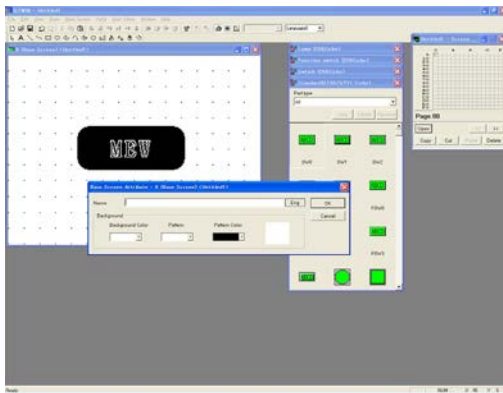
Choose the following settings and click **OK**.

“Data to Transfer” ---- “All Data”

“Direction” ---- “GTWIN → GT”

**7. Change the background color or backlight color.**

– When changing the background color  
GT21 and GT30



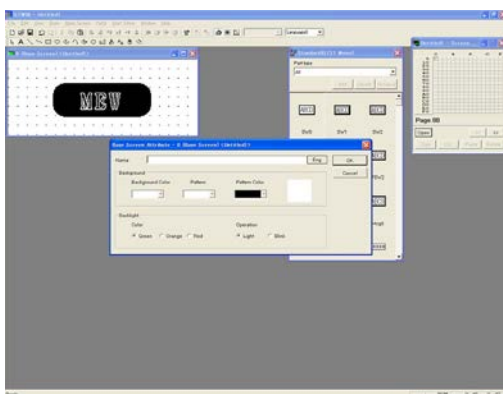
Click [Base Screen]-[Screen Attribute], so that “Base Screen Attribute” window is displayed.

Change “Background color” to “Blue” and click **OK**.

\* For GT21 and GT30 you can set the pattern and its color.

\* For the monochrome type models, only two colors “White” or “Black” are selectable.

– When changing the Backlight  
(Available for 3-color LED type GT01 and GT11)  
GT01 and GT11

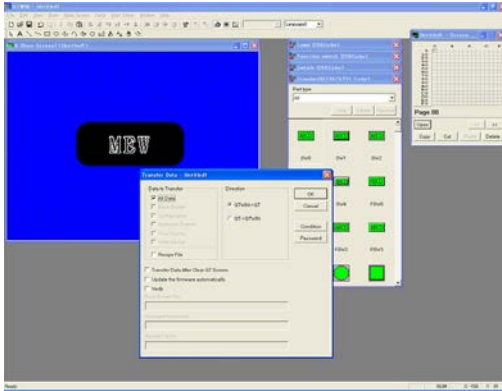


Click [Base Screen]-[Screen Attribute], so that “Base Screen Attribute” window is displayed.

Change “Backlight color” to “Red” and click **OK**.

\* This function is not available for the white LED type GT01 nor GT11.

## 8. Transfer the screen data created to the Programmable Operator Terminal.



Click [File]-[Transfer], so that “Transfer Data” window is displayed.

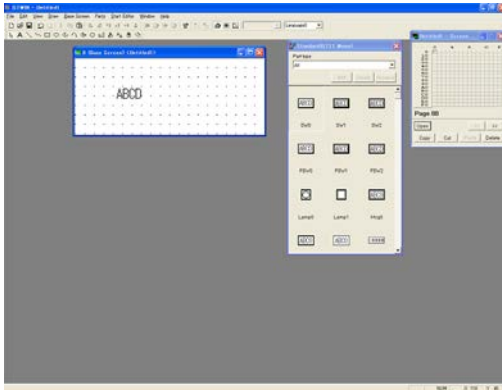
Choose the following settings and click .

“Data to Transfer” ---- “All Data”

“Direction” ---- “GTWIN → GT”

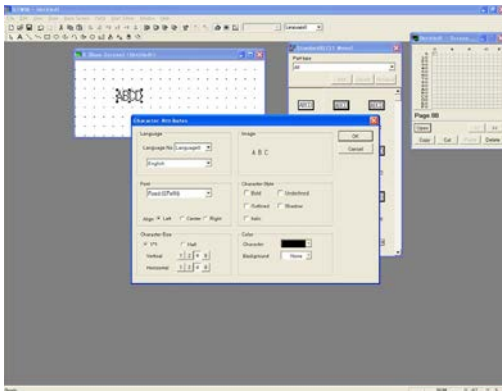
## 2.1.2 Changing the Backlight Settings (Function for GT01 and GT11)

### 1. Open the No. 0 “Base Screen” window and write characters.




Write “ABCD”.

### 2. Quadruple the character size (vertically and horizontally).



Click the “Select” icon .

Click “ABCD” to select. Then, right-click it to open the menu and select [Character Type].

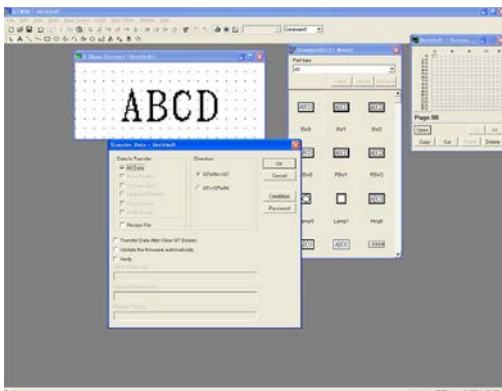
Choose the following settings and click .

“Font” ---- “Fixed (GTWIN)”


“Character Size” ----

4 for “Vertical” and “Horizontal”.

### 3. Transfer the screen data created to the Programmable Operator Terminal.



Click [File]-[Transfer] so that “Transfer Data” window is displayed.

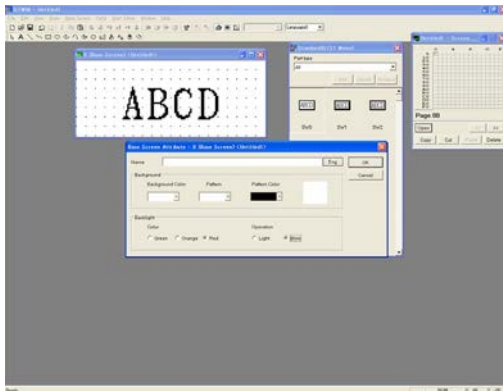
Choose the following settings and click .

“Data to Transfer” ---- “All Data”

“Direction” ---- “GTWIN → GT”

Check whether the characters written on the “Base Screen” window are displayed on the Programmable Operator Terminal.

#### 4. Change the backlight color.

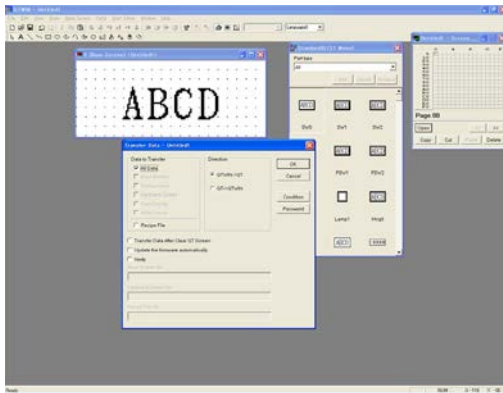


Click [Base Screen]-[Screen Attribute], so that "Base Screen Attribute" window is displayed. Set the following and click **OK**.

**"Backlight"**  
"Color" ---- "Red"  
"Operation" ---- "Blink"

\* This function is not available for the white LED type GT01 nor GT11.

#### 5. Transfer the screen data created to the Programmable Operator Terminal.



Click [File]-[Transfer], so that "Transfer Data" window is displayed.

Choose the following settings and click **OK**.

**"Data to Transfer"** ---- "All Data"  
**"Direction"** ---- "GTWIN → GT"

Check the Programmable Operator Terminal whether the background is blinking in red.



## **Chapter 3**

---

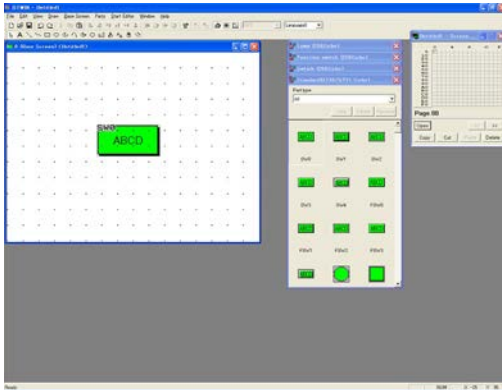
# **How to Use the Parts Library**

## 3.1 “Standard” Parts Library – Switch Parts

Switch parts are used to turn ON or OFF the bit of the specified PLC device.

### 3.1.1 Setting a Switch Part to the “Alternate” Operation Mode

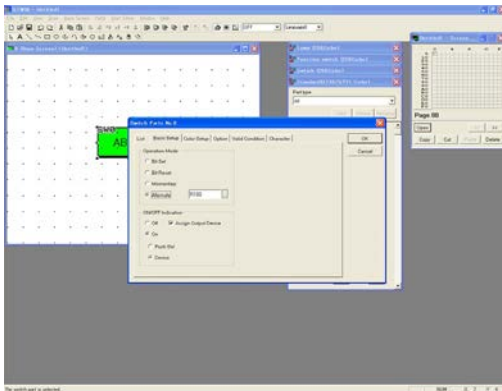
#### 1. Open the No. 0 “Base Screen” window and place a Switch part.



Click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From the “Standard” Parts Library, drag “SW0” and drop it on the “Base Screen” window.

#### 2. Double-click the placed Switch part and change its operation mode.



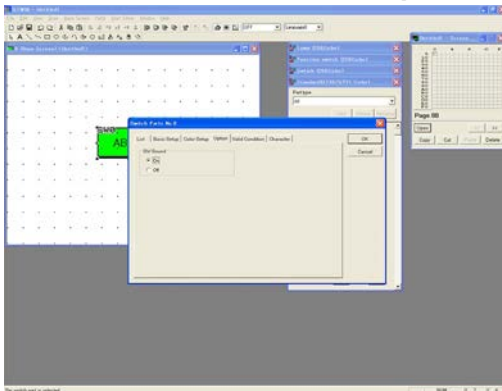
Double-click “SW0” so that the “Switch Parts” dialog box - <Basic Setup> tab is displayed. Select “Alternate” for “Operation Mode”.

#### “ON/OFF Indication” ----

“On”: Select this if you want to alter the way a switch looks depending on whether it’s ON or OFF. (Input on the character setting window.)

“Off”: Select this if a switch’s display should remain the same, regardless of whether it’s ON or OFF.

#### 3. <Valid Condition> tab – Keep the default settings.



Keep the default settings. (“Always operational”)

#### “Always Operational”:

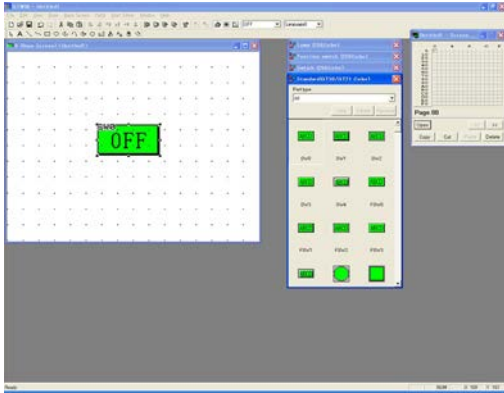
The set switch always operates as a switch.

#### “Operational under Valid Condition”:

The set switch operates as a switch only when the set condition is met.



4. <Character> tab - Set characters to display when the switch is OFF.



Set the following when the switch is OFF.

“Font” --- “Fixed (GTWIN)” for “True Type (GTWIN)”

“Character String”

Delete the default characters, ABCD, and enter OFF.

“Size”

Select 1\*1.

2 for “Vertical” and “Horizontal”.

“Style” ---- nothing to check.

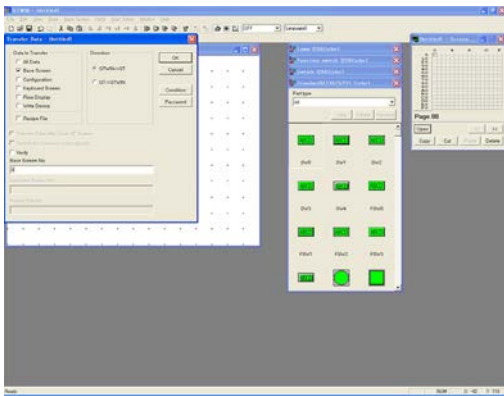
“Color”

“Character” ---- Black

“Background” ---- None

\* The color types of GT21 and GT30, setting colors is possible.

5. <Character> tab - Set characters to display when the switch is ON.



Set to display “ON” when the switch is ON.

“Font” --- “Fixed (GTWIN)” for “True Type (GTWIN)”

“Character String” ----

Delete the default characters, ABCD. Enter 3 spaces, ON and 3 spaces.

“Size” ----

Select 1\*1.

2 for “Vertical” and “Horizontal”.

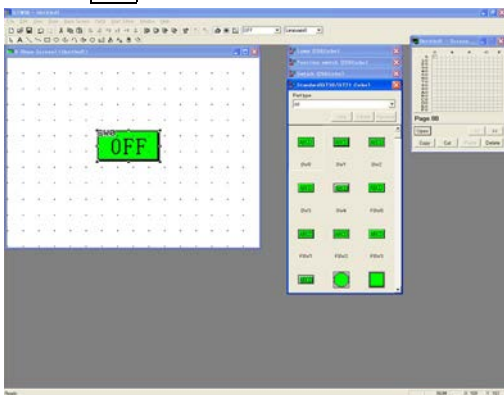
“Style” ---- “Bold”

“Color”

“Character” ---- White

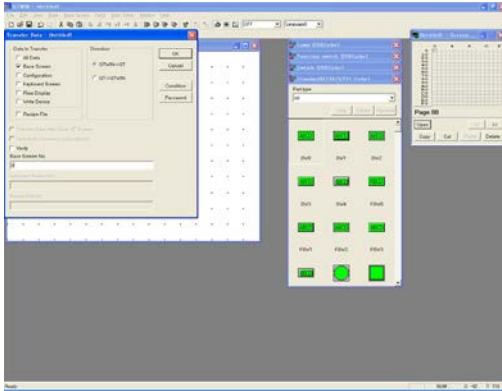
“Background” ---- Yellow green

6. Click **OK**.



When the settings are completed, click **OK** so that what was set is displayed on the “Base Screen” window.

## 7. Transfer the created screen data to the Programmable Operator Terminal.



Click [File]-[Transfer] so that the “Transfer Data” window is displayed.  
Choose the following settings and click **OK**.

“Data to Transfer” ---- “Base Screen”  
“Direction” ---- “GTWIN → GT”  
“Base Screen No.” ---- “0”

## 8. Check display on the Programmable Operator Terminal.



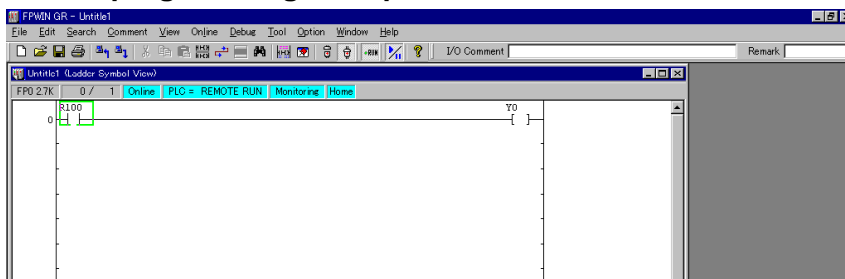
When a transmission is completed, the switch created using GTWIN is displayed on the Programmable Operator Terminal.

Check the performance with the PLC programming tool software you have.

### [Example] When checking performance with FPWIN GR.

Start up the FPWIN GR. Create a program and download it to the PLC.

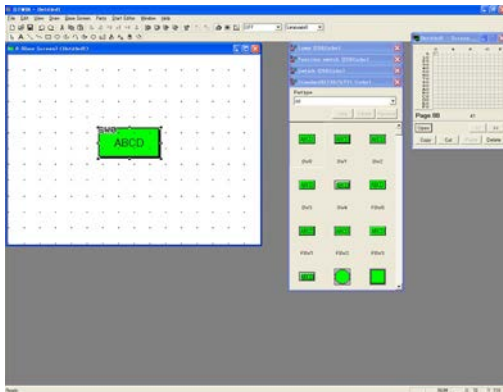
### FPWIN GR programming example



After downloading is complete, press the switch created on the display panel and check whether the program works properly.

### 3.1.2 Setting a Switch Part to “Momentary” Operation Mode

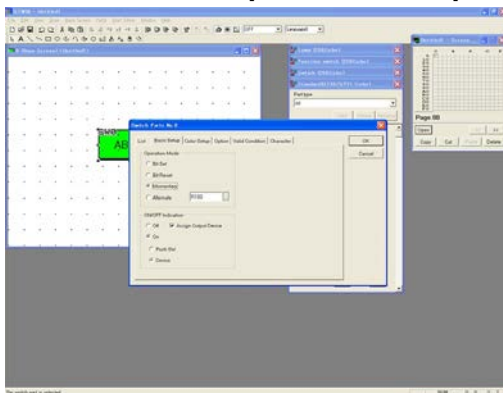
#### 1. Open the No. 0 “Base Screen” window and place a Switch part.



Click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From the “Standard” Parts Library, drag “SW0” and drop it on the “Base Screen” window.

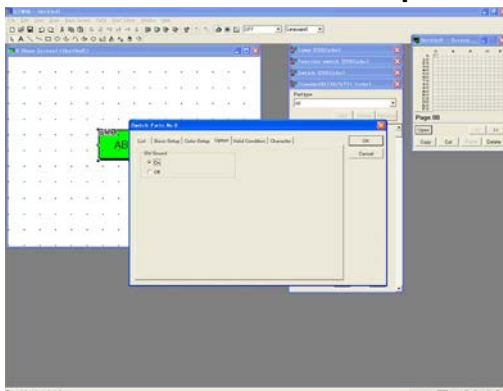
#### 2. Double-click the placed Switch part and change its operation mode.



Double-click “SW0” so that the “Switch Parts” dialog box - <Basic Setup> tab is displayed. Select “Momentary” for “**Operation Mode**”.

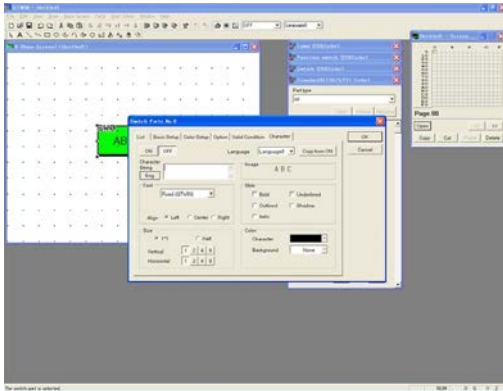
(Keep the default setting for “**ON/OFF Indication**”.)

#### 3. <Valid Condition> tab – Keep the default settings.



Keep the default setting. (“Always Operational”)

**4. <Character> tab - Set a display when the switch is OFF.**



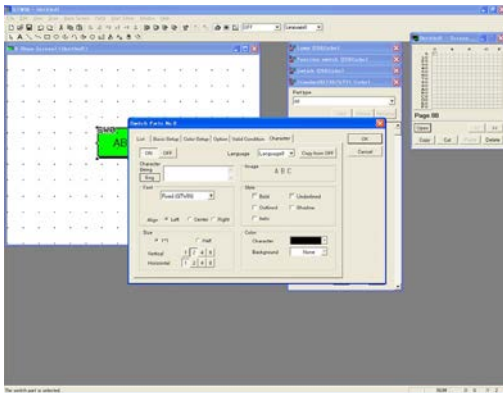
Set to display nothing when the switch is OFF.

“Character String” ----  
Delete the default characters, ABCD, and move the cursor to the far left.

\*The character size for the True Type (GTWIN) font and Windows(R) font is selectable by the number of dots.

\* The color types of GT21 and GT30, setting colors is possible.

**5. <Character> tab - Set a display when the switch is ON.**



Set 7 spaces for the switch-ON.

“Font” ---- “Fixed (GTWIN)W” for “True Type (GTWIN)”

“Character String” ----  
Delete the default characters, ABCD. Enter 7 spaces.

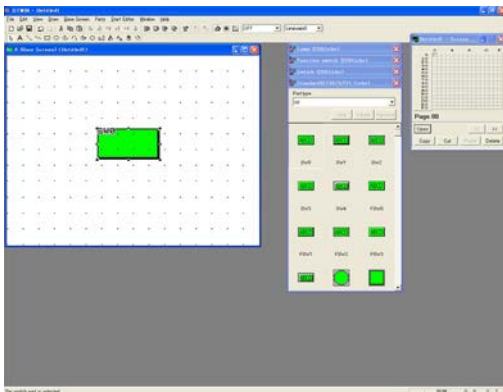
“Size” ----

Select 1\*1.

2 for “Vertical”, 1 for “Horizontal”.

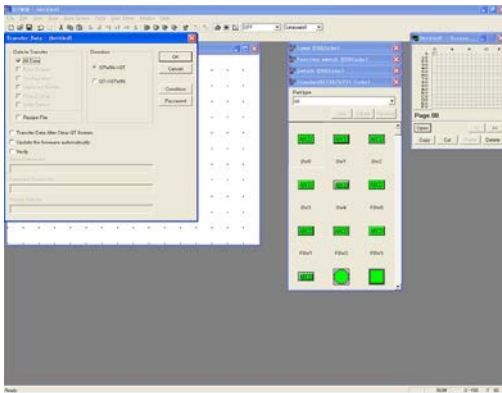
“Style” ---- Nothing to check.

**6. Check what was created on the “Base Screen” window.**



When the settings are completed, what was set is displayed on the “Base Screen” window.

## 7. Transfer the screen data created to the Programmable Operator Terminal.



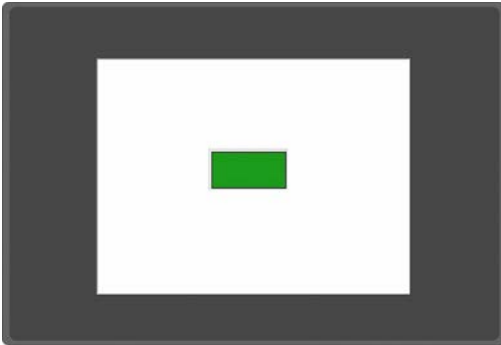
Click [File]-[Transfer], so that “Transfer Data” window is displayed.

Choose the following settings and click **OK**.

“Data to Transfer” ---- “All Data”

“Direction” ---- “GTWIN → GT”

## 8. Check display on the Programmable Operator Terminal.



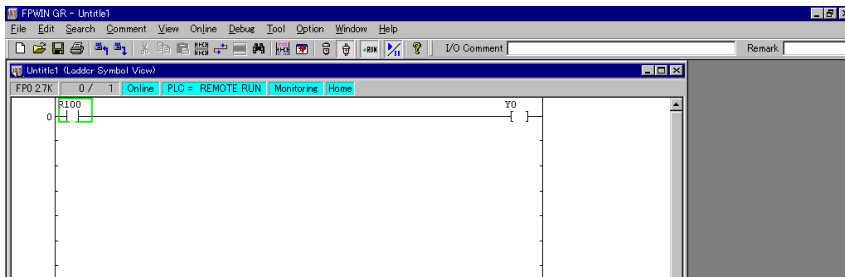
When a transmission is completed, the created Switch using GTWIN is displayed on the Programmable Operator Terminal.

Check the performance with the PLC programming tool software you have.

### [Example] When checking performance with FPWIN GR.

Start up the FPWIN GR. Create a program and download it to the PLC.

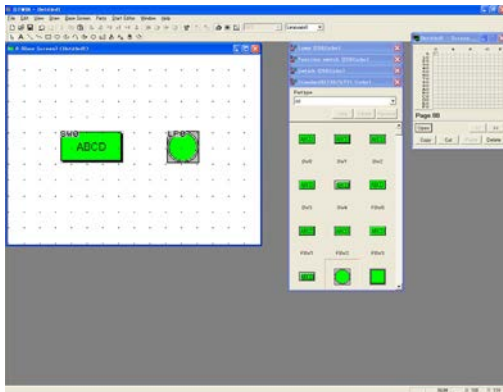
### FPWIN GR programming example



After downloading is complete, press the switch created on the display panel and check whether the program works properly.

### 3.1.3 Setting Switch and Lamp Parts

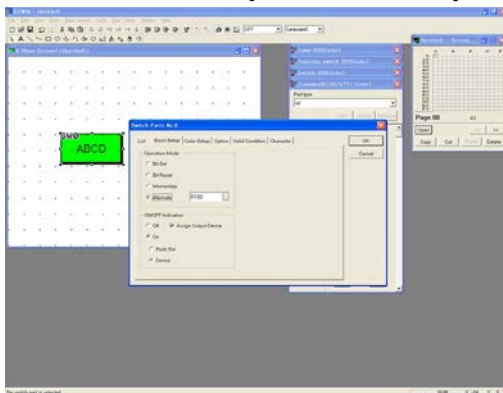
#### 1. Open the No. 0 “Base Screen” window and place Switch and Lamp parts.



Click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From the “Standard” Parts Library, drag “SW0” and “Lamp0”, and drop them on the “Base Screen” window.

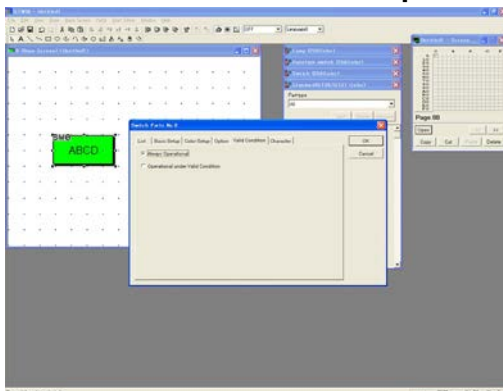
#### 2. Double-click the placed Switch part and change its operation mode.



Double-click “SW0”, so that “Switch Parts” dialog box - <Basic Setup> tab is displayed.

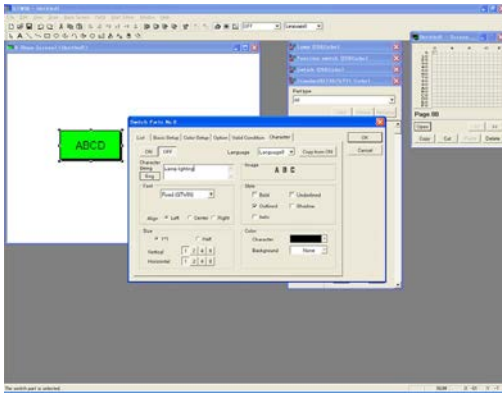
Select “Alternate” for “Operation Mode”.

#### 3. <Valid Condition> tab – Keep the default settings.



Keep the default setting.  
(Always Operational)

**4. <Character> tab - Set characters to display when the switch is OFF.**



Set to display “Lamp lighting” when the switch is OFF.

“Font” ---- “Fixed (GTWIN)W” for “True type (GTWIN)”

“Size” ----

Select 1\*1.

1 for “Vertical” and “Horizontal”.

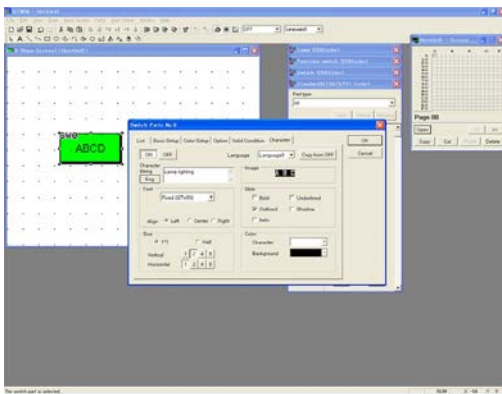
“Color”

“Character” ---- Black

“Background” ---- None

“Style” ---- “Outlined”

**5. <Character> tab - Set characters to display when the switch is ON.**



Set a display for the switch-ON.

“Font” ---- “Fixed (GTWIN)W” for “True type (GTWIN)”

“Character String” ----

Enter 1 space, “Lamp lighting” and 1 space.

“Size” ----

Select 1\*1.

2 for “Vertical”, 1 for “Horizontal”.

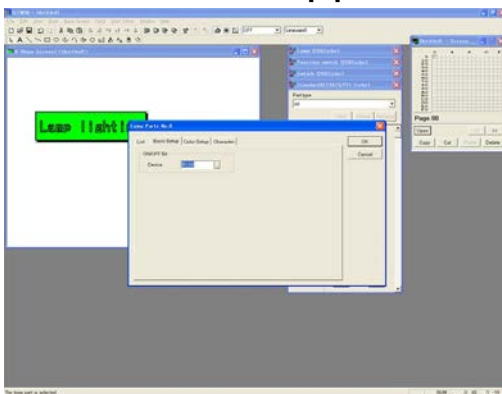
“Color”

“Character” ---- White

“Background” ---- Black

“Style” ---- “Outlined”

**6. Double-click the Lamp part.**

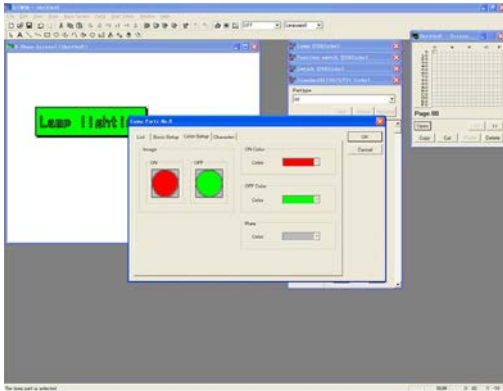


Double-click “LP0”, so that “Lamp Parts” dialog box - <Basic Setup> tab is displayed.

Keep the default settings.



**7. <Color Setup> tab – Keep the default settings.**



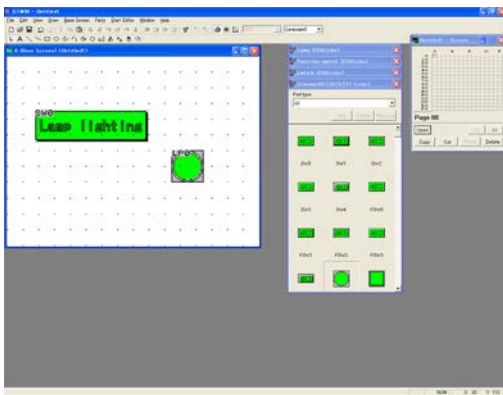
Keep the default settings.

- “ON Color” ---- Red
- “OFF Color” ---- Yellow green
- “Plate” ---- Gray

\* For GT01, GT11 and the monochrome type of GT30, only two colors “White” or “Black” are selectable.

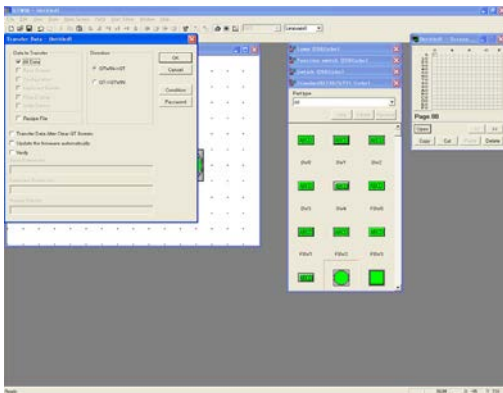
\* The plate setting is not available for GT01 nor GT11.

**8. Check what was created on the “Base Screen” window.**



The above settings create the ones shown on the left.

**9. Transfer the screen data created to GT.**



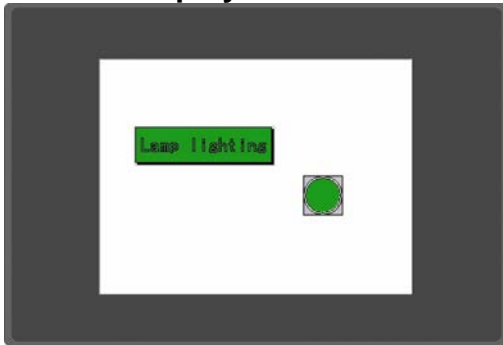
Click [File]-[Transfer], so that “Transfer Data” window is displayed.

Choose the following settings and click **OK**.

- “Data to Transfer” ---- “All Data”
- “Direction” ---- “GTWIN → GT”



## 10. Check display on GT.



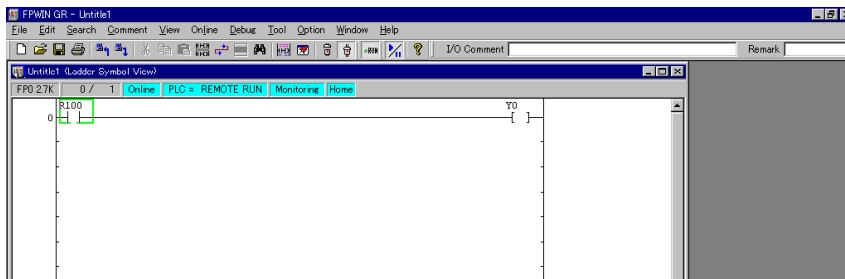
When transmission is completed, the switch and lamp created using GTWIN are displayed on GT.

Check the performance with the PLC programming tool software you have.

### [Example] When checking performance with FPWIN GR.

Start up the FPWIN GR. Create a program and download it to the PLC.

### FPWIN GR programming example



After downloading is complete, press the switch created on the display panel and check whether the program works properly.

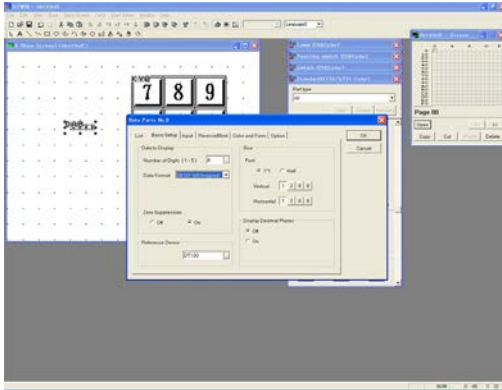
## 3.2 “Keyboard” Parts Library

### 3.2.1 Setting to Enter and Display Integer Values

#### What are Data parts?

Data parts are used to display the values of internal PLC devices directly on the screen. When they are used together with Keyboard parts, values for the internal PLC devices can be changed or input from GTWIN.

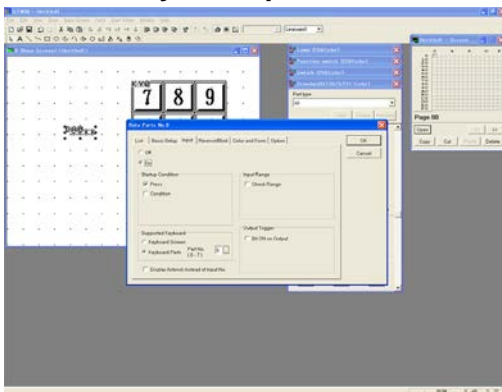
#### 1. Open the No. 0 “Base Screen” window and place a Data part.



Double-click the No. 0 on the “Screen Manager” window, so that its “Base Screen” window is displayed.

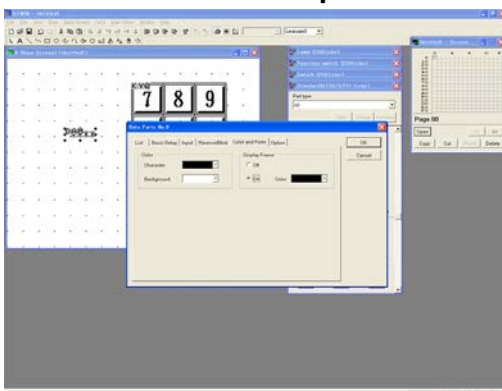
From “Standard” Parts Library, drag “Data” and drop it on the “Base Screen” window.

#### 2. Place a Keyboard part on the “Base Screen” window.



From the “Keyboard” Parts Library, drag “DEC1”, and drop it on the “Base Screen” window.

#### 3. Double-click the Data part and change basic settings.



Double-click “DT0” on the base screen , and choose the following settings;

#### “Data to Display”

“Number of Digits” ---- “4”

“Data Format” ---- “DEC[1W]Unsigned”

“Zero Suppression” ---- “On”

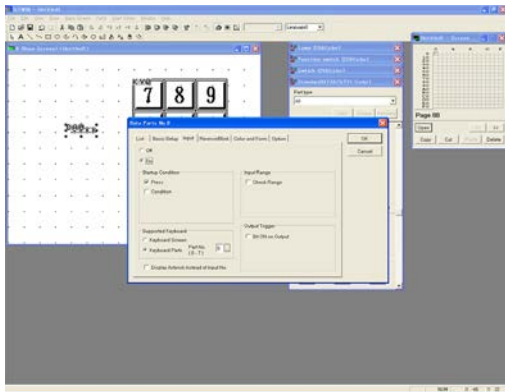
“Reference Device” ---- “DT100”

#### “Size”

“Font” ---- 1\*1, 1 for “Vertical” and “Horizontal”

“Display Decimal Places” ---- “Off”

#### 4. <Input> tab – Change the settings.



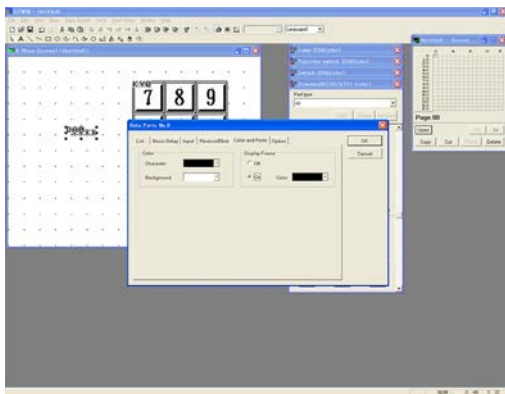
Click <Input> tab and Choose the following settings.

First, select “On” so that its related items appear.

“**Startup Condition**” ---- Check “Press”.

“**Supported Keyboard**” ----  
Check “Keyboard Parts”.  
Select “0” for “Part No.”

#### 5. <Color and Form> tab – Set the color and frame of the Data part.

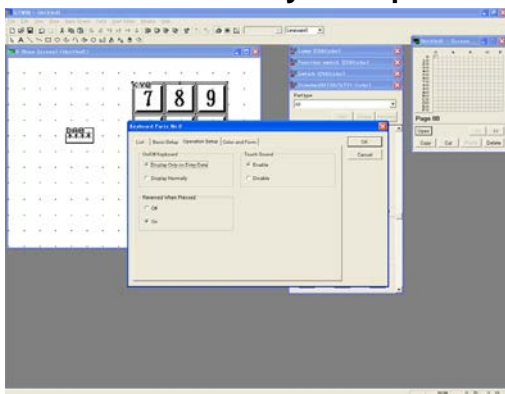


Click <Color and Form> tab. Choose the following settings, and click **OK**.

“**Color**”  
“Character” ---- Black  
“Background” ---- White

“**Display Frame**” ---- “On”

#### 6. Double-click the Keyboard part and change its basic settings.

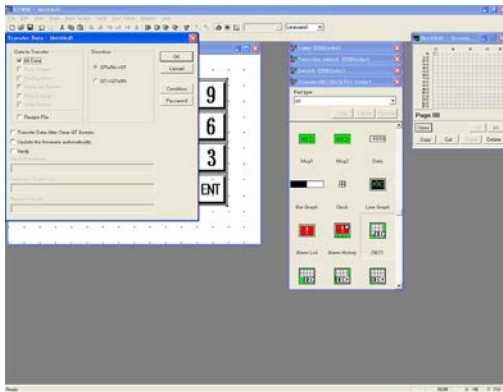


Double-click “KY0” so that <Basic Setup> tab is displayed.

Choose the following settings, and click **OK**.

“**On/Off Keyboard**”  
Select “Display Normally”.

## 7. Transfer the screen data created to the Programmable Operator Terminal.



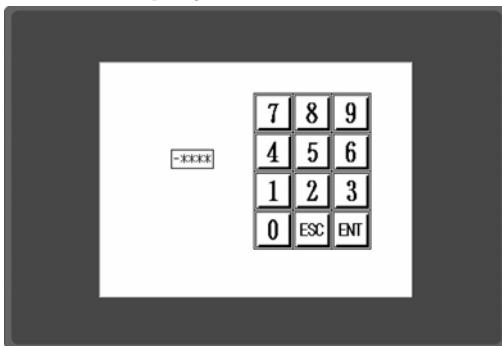
Click [File]-[Transfer], so that “Transfer Data” window is displayed.

Choose the following settings and click .

“Data to Transfer” ---- “All Data”

“Direction” ---- “GTWIN → GT”

## 8. Check display on GT.



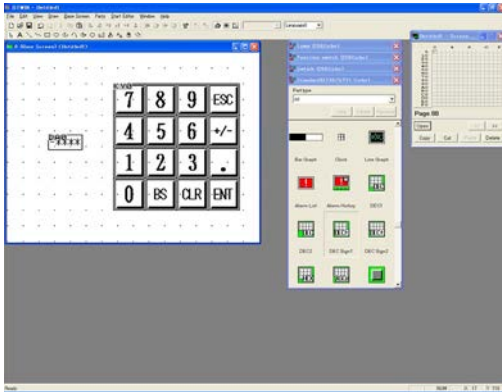
When transmission is completed, the Data and Keyboard parts created using GTWIN are displayed on GT.

Try to enter numbers using the keyboard on the display panel.

\* Pressing the data part on the touch panel changes the keyboard part to the input mode, so that it enables to input values.

## 3.2.2 Setting to Enter and Display Decimal Values

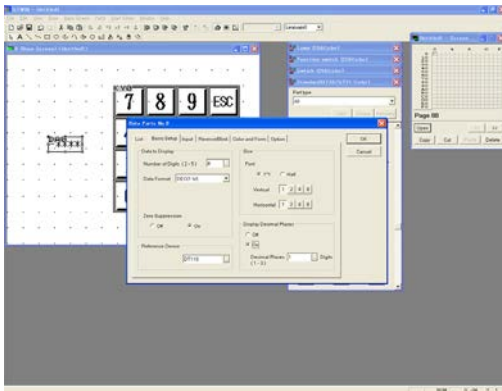
### 1. Open the No. 0 “Base Screen” window and place Data and Keyboard parts.



Double-click the No. 0 on the “Screen Manager” window, so that its “Base Screen” window is displayed.

Drag and drop on the “Base Screen” window the “Data” from “Standard” Parts Library and the “DEC Sign1” from the “Keyboard” Parts Library.

### 2. Double-click the Data part and change its basic settings.



Double-click Data part. Choose the following settings for <Basic Setup> tab and click  OK.

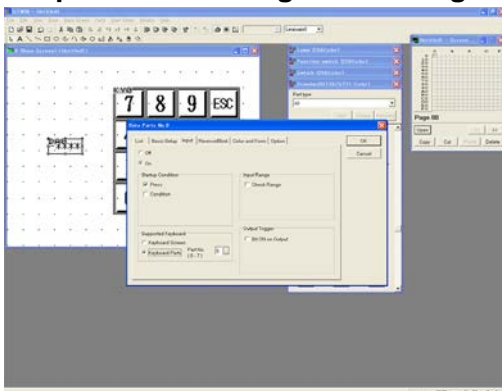
“Reference Device” ---- “DT110”

“Display Decimal Places”

Select “On”.

“Decimal Places” ---- “1” Digits

### 3. <Input> tab – Change the settings.



Click <Input> tab and Choose the following settings.

Select “On” so that its related items appear.

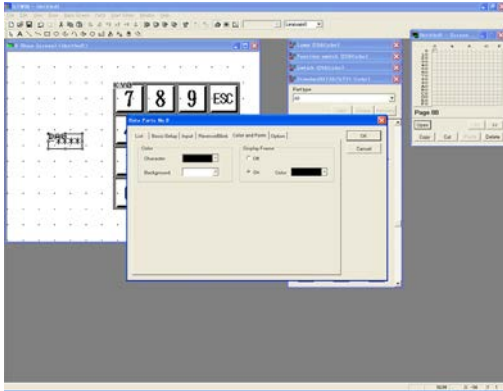
“Startup Condition” ---- Check “Press”.

“Supported Keyboard” ----

Check “Keyboard Parts”.

Select “0” for “Part No.”

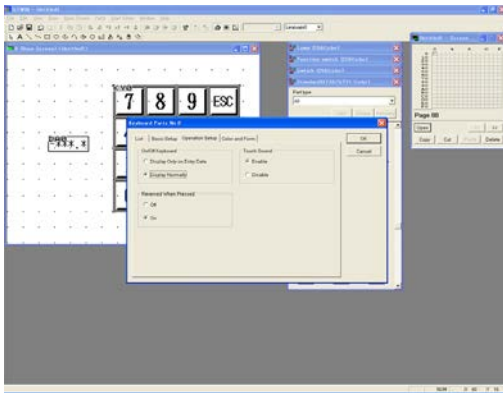
**4. <Color and Form> tab – Set the color and frame of the Data part.**



Click <Color and Form> tab and Choose the following settings.

- “Color”
  - “Character” ---- Black
  - “Background” ---- White
- “Display Frame” ---- “On”

**5. Double-click the Keyboard part and change its basic settings.**

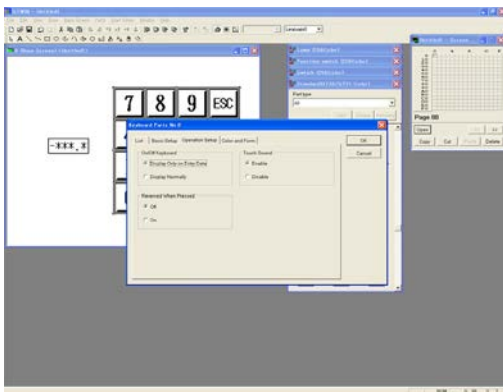


Double-click “KY0” so that the “Keyboard Parts” dialog box - <Basic Setup> tab is displayed.

Choose the following settings.

- “On/Off Keyboard”
  - Select “Display Normally”.

**6. Transfer the screen data created to GT.**

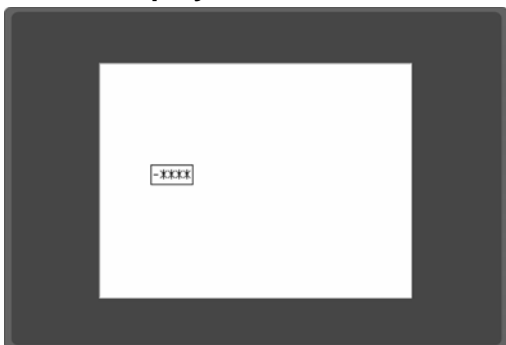


Click [File]-[Transfer] so that the “Transfer Data” window is displayed.

Choose the following settings and click .

- “Data to Transfer” ---- “All Data”
- “Direction” ---- “GTWIN → GT”

## 7. Check display on GT.



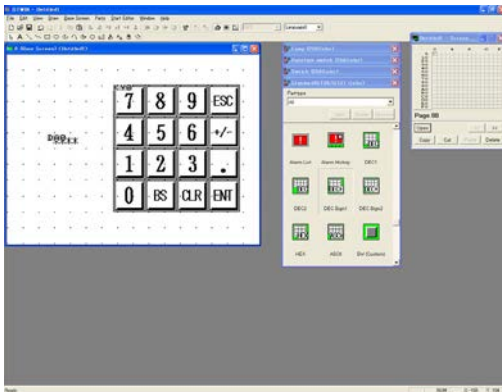
When transmission is completed, the Data and Keyboard parts created using GTWIN are displayed on GT.

Touch the Data part, so that the Keyboard part appears, enabling you to make entries.

Try to enter values and check whether the decimals are displayed.

### 3.2.3 Specifying a Range of Value Entries

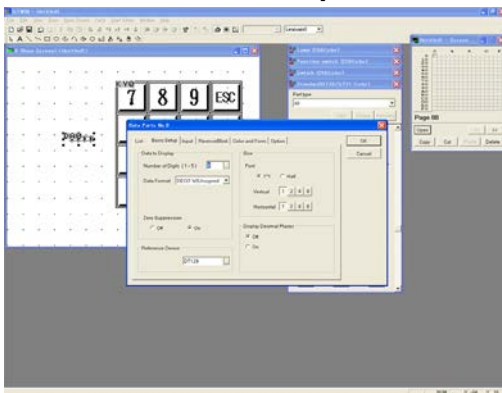
#### 1. Open the No. 0 “Base Screen” window and place Data and Keyboard parts.



Double-click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

Drag and drop on it the “Data” from the “Standard” Parts Library and the “DEC Sign1” from “Keyboard” Parts Library.

#### 2. Double-click the Data part and change the basic setup.



Double-click “DT0” for the part No.

Choose the following settings for the basic setup and the color and form. (Specify the input settings other than the input.)

##### “Basic Setup”

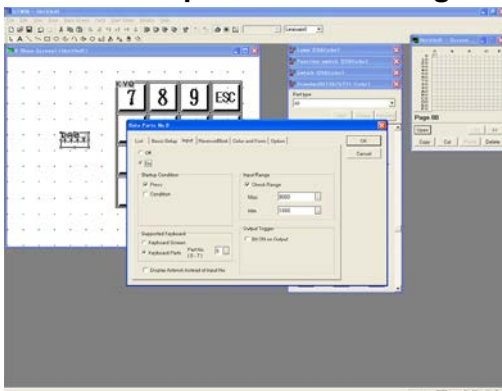
“Data Format” ---- DEC(1W) Unsigned

“Reference Device” ---- DT129

##### “Color and Form”

“Display Frame” ---- On

#### 3. Click the “Input” tab and change the setting.



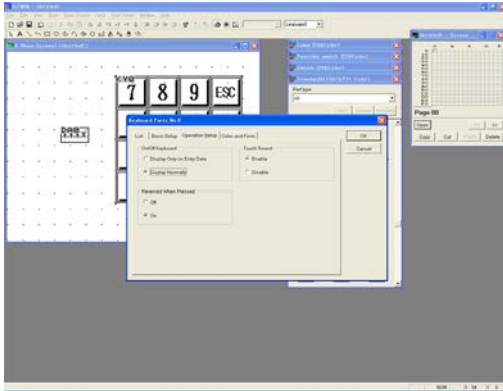
Click the “Input tab and choose “Check Range” for the “Input Range”. Input values for the max. and min. values, and then click **OK**.

“Max.” ---- 9000

“Min.” ---- 1000



**4. Double-click the Keyboard part and change its basic settings.**

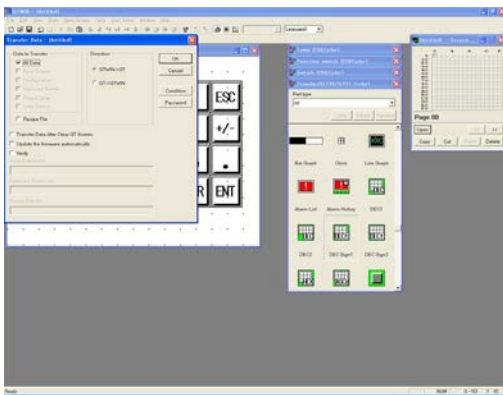


Double-click “KY0” so that “Keyboard Parts” dialog box - <Basic Setup> tab is displayed.

Choose the following settings and click **OK**.  
**“On/Off Keyboard”**

Select “Display Normally”.

**5. Transfer the screen data created to the Programmable Operator Terminal.**



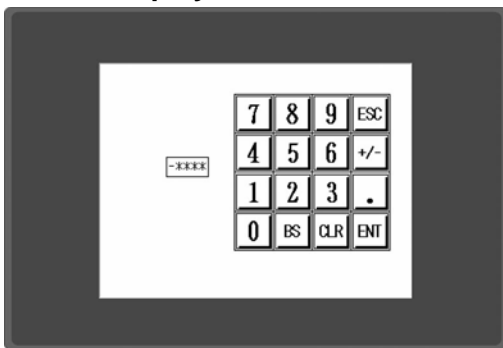
Click [File]-[Transfer], so that the “Transfer Data” window is displayed.

Choose the following settings and click **OK**.

**“Data to Transfer”** ---- “All Data”

**“Direction”** ---- “GTWIN → GT”

**6. Check display on GT.**



When transmission is completed, the Data and Keyboard parts created using GTWIN are displayed on GT.

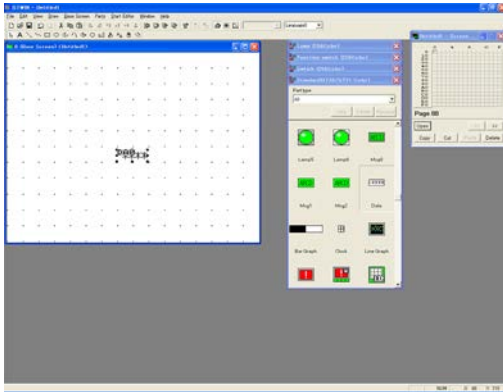
Try to enter numbers using the keyboard on the display panel.

(Check that values from 1000 to 9000 can be entered, but that values outside this range cannot.)

\* Pressing the data part on the touch panel changes the keyboard part to the input mode, so that it enables to input values.

### 3.2.4 Setting a Screen for a Value Entry and a Value Display

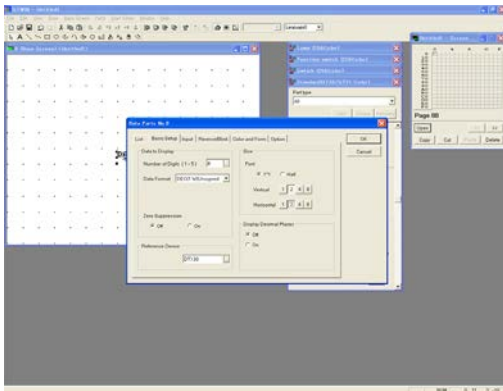
#### 1. Open the No. 0 “Base Screen” window and place a Data part.



Click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From “Standard” Parts Library, drag the “Data” and drop it on the “Base Screen” window.

#### 2. Double-click the Data part and change its basic settings.



Double-click “DT0”, so that “Data Parts” dialog box - <Basic Setup> tab is displayed. Choose the settings below:

##### “Data to Display”

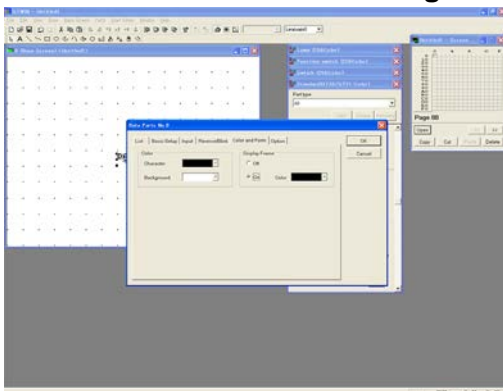
“Data Format” ---- “DEC[1W]Unsigned”  
 “Zero Suppression” ---- “Off”

“Reference Device” ---- “DT130”

##### “Size”

“Font” ---- 2 for “Vertical” and “Horizontal”

#### 3. <Color and Form> tab – Change the settings.

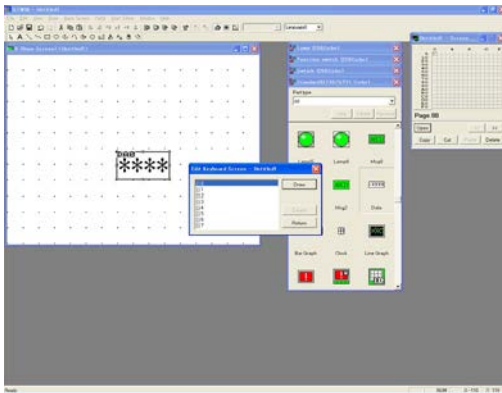


Click <Color and Form> tab. Choose the following settings and click . (The settings for <Input> tab are made later.)

“Display Frame” ---- “On”

Keep the default settings for the <Reverse/Blink> tab.

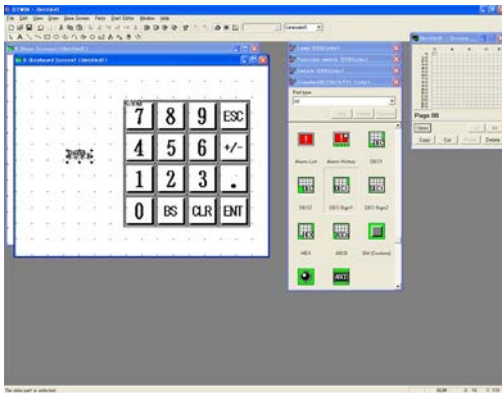
**4. Open the “Keyboard Screen” window.**



Click [File]-[Keyboard Screen] so that the “Edit Keyboard Screen” window is displayed.

Select [ ]0 and click **Draw**.

**5. Place Data and Keyboard parts on the “Keyboard Screen” window.**

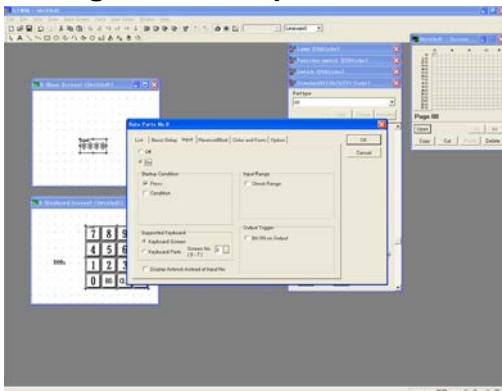


Drag and drop on the “Keyboard Screen” window the “Data” from the “Standard” Parts Library and the “DEC Sign1” from the “Keyboard” Parts Library.

(Keep the default settings for KY0 and DT0 on the keyboard part.)

No setting is needed for the data format of the data parts on the “keyboard screen”. The setting of the data parts which have been automatically invoked is used. The number of digits of the data should be set to be larger than the number of digits of the data parts invoked.

**6. Double-click the Data part on the “Base Screen” window and change settings for the <Input> tab.**



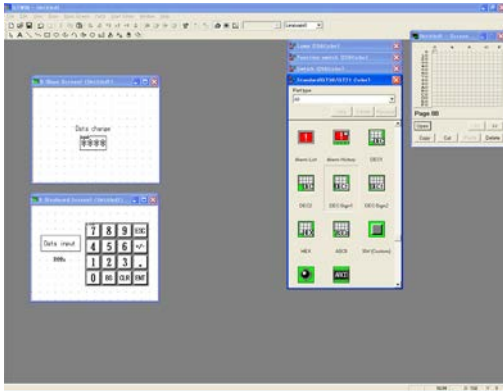
Double-click “DT0” on the “Base Screen” window so that the “Data Parts” dialog box - <Basic Setup> tab is displayed. Click <Input> tab, Choose the following settings and click **OK**.

Select “On” so that its related items appear.

**“Supported Keyboard”**

Select the “Keyboard Screen” and “0” for “Screen No.”.

**7. Write characters and a frame on the “Base Screen” and “Keyboard Screen” windows.**

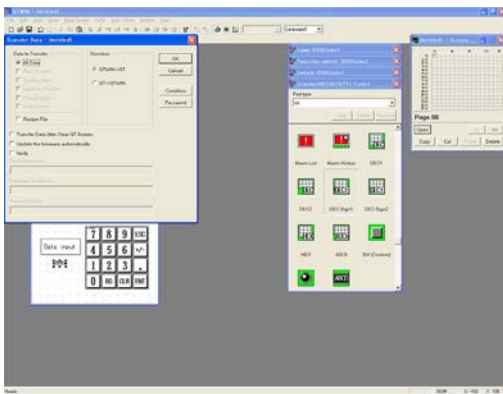


Click the “Character String” icon to write characters and the “Rectangle” icon to draw a frame.

Write “Data change” above “DT0” on the “Base Screen” window.

Write “Data input”, with a frame, next to “KY0” on the “Keyboard Screen” window.

**8. Transfer the screen data created to GT.**



Click [File]-[Transfer] so that the “Transfer Data” window is displayed.

Choose the following settings and click **OK**.

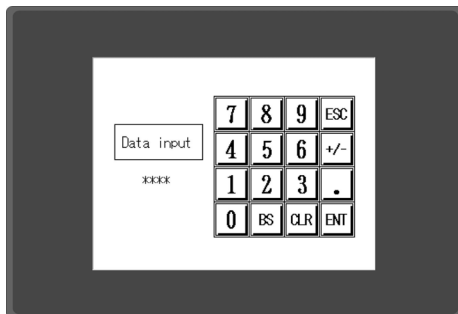
“Data to Transfer” ---- “All Data”  
 “Direction” ---- “GTWIN → GT”

**9. Check display on GT.**



When transmission is completed, the parts created using GTWIN are displayed on GT.

Press the “Data change” Data part on the display panel, so that it changes to the “Data input” screen.



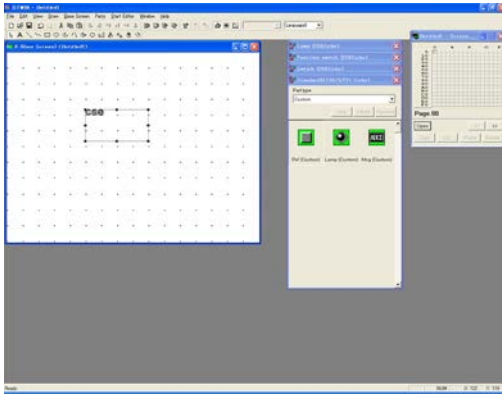
Try to enter values and check whether the screen goes back to the “Data change” screen when **↵** is pressed.

## 3.3 Standard Parts Library - “Custom” Parts Library

Custom parts are used when you want to create an original part, e.g. one with a complicated pattern.

### 3.3.1 How to Create Switch Parts

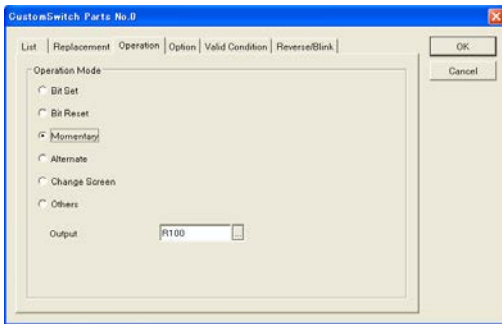
#### 1. Open the No. 0 “Base Screen” window and place the custom switch parts.



Click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

Drag the custom part “SW (Custom)” and drop it on the base screen.

#### 2. Double-click the Custom Switch parts and set its parameters.



Drag the “SW (Custom)” from the standard parts library, and double-click the placed Switch parts, so that the “Custom Switch Parts” dialog box - <Operation> tab is displayed.

The setting items for each tab are as follows.

##### (1) <Replacement> tab

When “On” is selected, what to display will be able to be selected depending on the status of the PLC devices.

There are 3 methods.

1. ON/OFF: Switches displays in response to the bit being turned ON/OFF.
2. Digit: Switches displays between 0 to F (16 ways) per 1 digit (4 bits).
3. Direct: Switches displays in 1-word units.

##### (2) <Operation> tab

Select what you want, such as Bit Set and Bit Reset.

##### (3) <Option> tab

The sound and the highlighted display of a switch can be set.

\* When “On” is selected for “Reversed When Pressed”, a display will be highlighted when a switch is pressed.

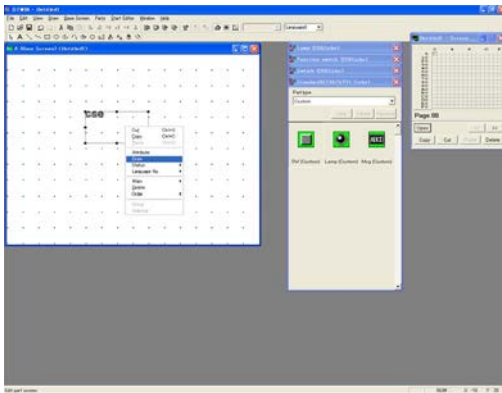
##### (4) <Valid Condition> tab

Switch operation can be ON or OFF in response to the status of the PLC devices (ON/OFF).

##### (5) <Reverse/Blink> tab

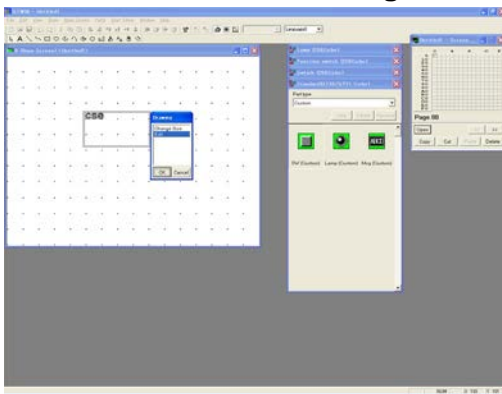
How to display is set.

### 3. Set the Custom switch part to drawing mode for writing characters or drawings.



Select the Switch part and right-click it to select [Draw].

### 4. Write characters or drawings in the Custom switch part.



The Switch part in drawing mode will be surrounded by a thick gray line.

The "Drawing" child window is displayed. This lists multiple displays if "On" is selected in <Replacement> tab of the "Custom Switch Parts" dialog box.

One by one, select and draw what you want using drawing icons.

When completed, click **OK**.

\* Select "Change Size" in the "Drawing" child window to change the part size.

### 3.3.2 How to Create Original Lamp and Message Parts

Creating custom Lamp or Message parts is fundamentally the same as creating custom Switch parts.

**(1) <Replacement> tab**

The setting items are the same as the custom Switch parts.

**(2) <Display/Hide> tab**

Lamp or Message parts can be displayed or hidden in response to the status of the PLC devices.

**(3) <Reverse/Blink> tab**

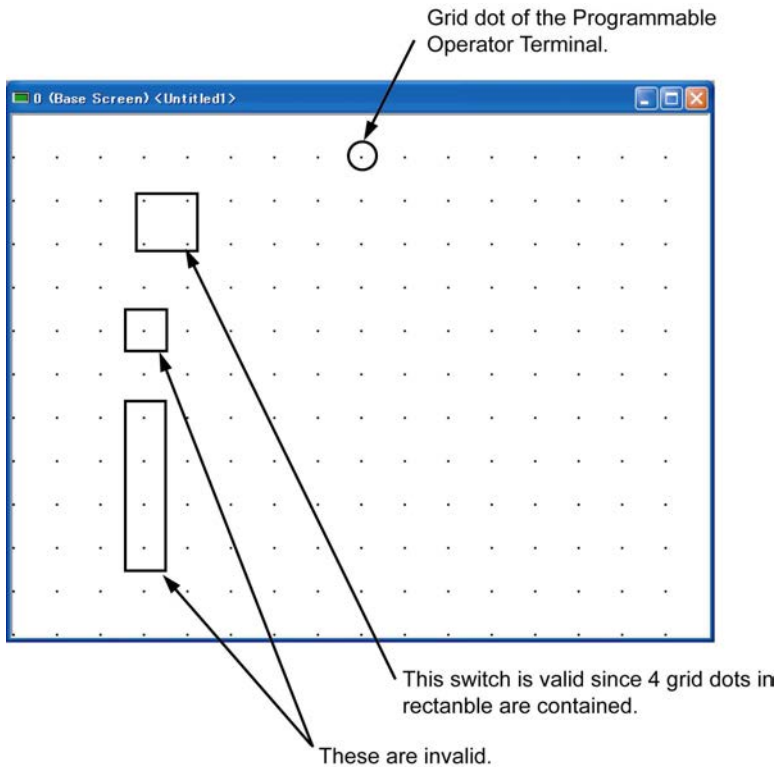
The setting items are the same as the custom Switch parts.



**Note:**

#### GT30

**Switch parts must contain at least 4 grid dots in a rectangle. Otherwise they will be invalid.**



#### GT01, GT11, GT21

**GT01/GT11 is an analog touch panel; therefore, switches can be laid out freely without regard to the grid. The minimum size of a switch is 8 x 8 dots.**





# Chapter 4

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## Screen Switching

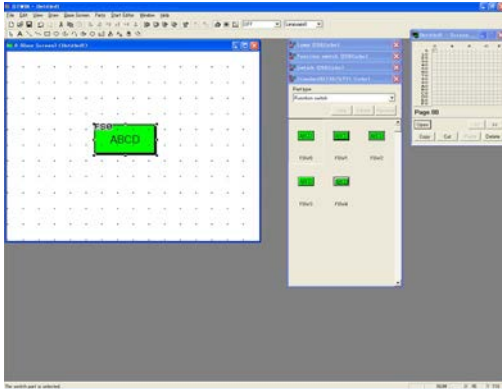
# 4.1 Switching Between Screens

## 4.1.1 Using Function Switch Parts

### What are Function switch parts?

Function switch parts are used to switch screens on the display panel or execute arithmetic operations when the switch is pressed on the panel.

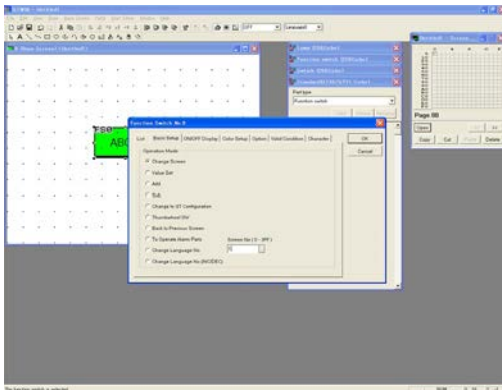
### 1. Open the No. 0 “Base Screen” window and place a Function switch part.



Click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From the “Standard” Parts Library, drag “FS0” and drop it on the “Base Screen” window.

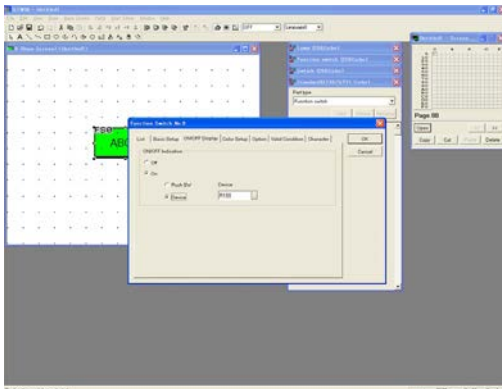
### 2. Double-click the Function switch part and change its basic settings.



Double-click “FS0”, and enter the settings below.

“Operation Mode” ----  
Select “Change Screen”.  
Enter 1 for “Screen No.”

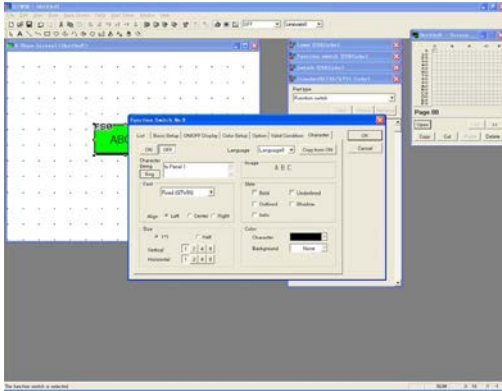
### 3. Click the “ON/OFF Display” tab and change its setting.



Click the “ON/OFF Display” tab, and choose the following setting.

“ON/OFF Indication” ---- “Device”

**4. Click “Character” tab and change its settings.**

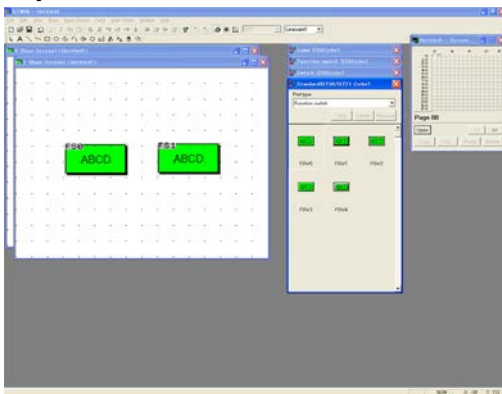


Change the settings and click **OK**.

**“Character”**

- ON “Character String” --- “to Panel 1”
- OFF “Character String” --- “to Panel 1”

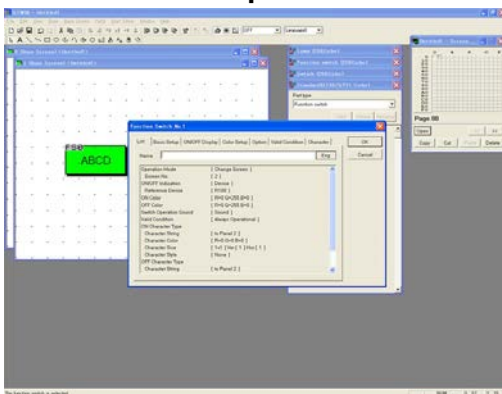
**5. Open the No. 1 “Base Screen” window and place 2 Function switch parts.**



Double-click the No. 1 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From the “Standard” Parts Library, drag “FS0” twice and drop on the “Base Screen” window.

**6. Double-click the placed Function switch parts and change basic settings.**



Double-click “FS0” on the No.1 “Base Screen” window, and choose the following settings, and click **OK**.

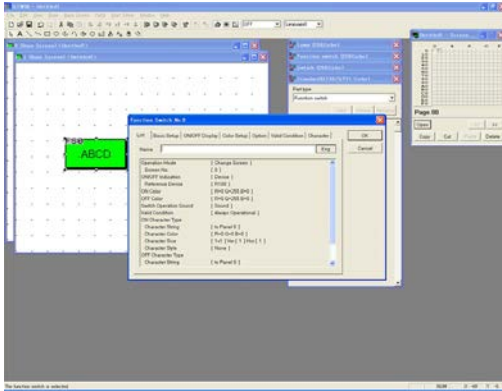
- “Operation Mode” ---- “Change Screen”
- “Screen No.” ---- 2

“ON/OFF Indication” ---- “Device”

**“Character”**

- ON “Character String” --- “to Panel 2”
- OFF “Character String” --- “to Panel 2”

## 7. Double-click the placed Function switch parts and change basic settings.



Double-click “FS1” on the No.1 “Base Screen” window, and choose the following settings, and click **OK**.

### “Basic Setup”

“Operation Mode” ---- “Change Screen”

“Screen No.” ---- 0

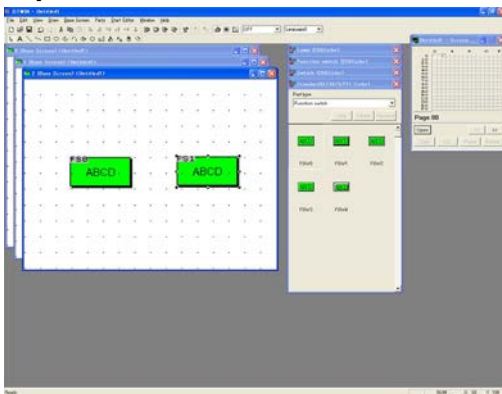
“ON/OFF Indication” ---- “Device”

### “Character”

ON “Character String” --- “to Panel 0”

OFF “Character String” --- “to Panel 0”

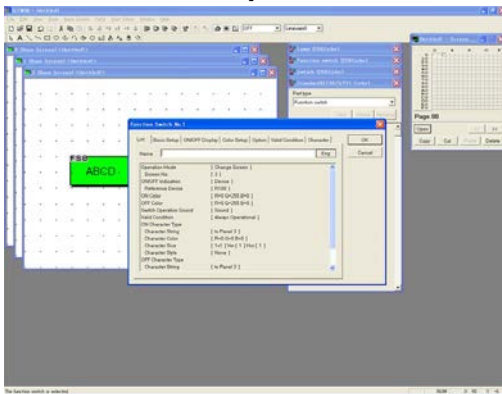
## 8. Open the No. 2 “Base Screen” window and place 2 Function switch parts.



Double-click the No. 2 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From the “Standard” Parts Library, drag “FS0” twice and drop on the “Base Screen” window.

## 9. Double-click the placed Function switch parts and change basic settings.



Double-click “FS0” on the No.2 “Base Screen” window, and choose the following settings, and click **OK**.

### “Basic Setup”

“Operation Mode” ---- “Change Screen”

“Screen No.” ---- 3

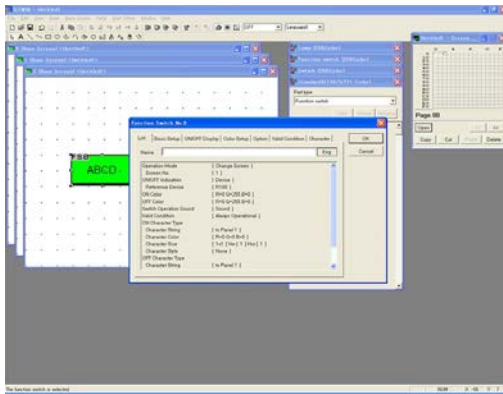
“ON/OFF Indication” ---- “Device”

### “Character”

ON “Character String” --- “to Panel 3”

OFF “Character String” --- “to Panel 3”

### 10. Double-click the placed Function switch parts and change basic settings.



Double-click “FS1” on the No.2 “Base Screen” window, and choose the following settings, and click **OK**.

**“Basic Setup”**

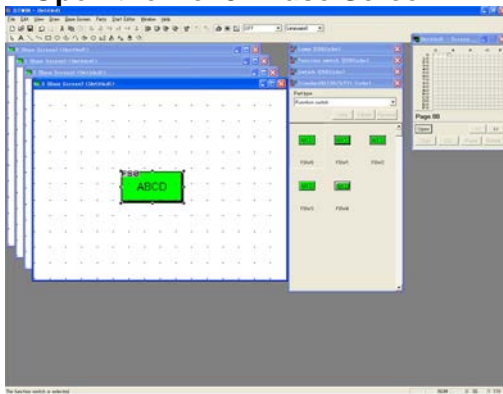
“Operation Mode” ---- “Change Screen”  
 “Screen No.” ---- 1

**“ON/OFF Indication”** ---- “Device”

**“Character”**

ON “Character String” --- “to Panel 1”  
 OFF “Character String” --- “to Panel 1”

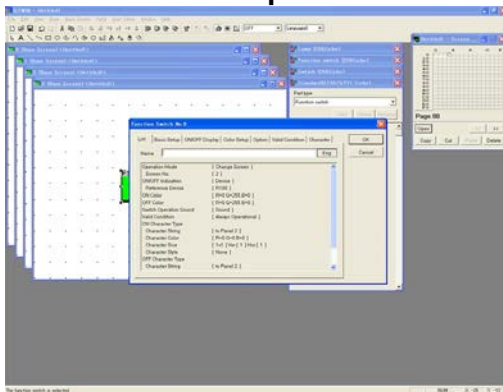
### 11. Open the No. 3 “Base Screen” window and place a Function switch part.



Double-click the No. 3 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From “Standard” Parts Library, drag “FS0” and drop it on the “Base Screen” window.

### 12. Double-click the placed Function switch parts and change basic settings.



Double-click “FS0” on the No.3 “Base Screen” window, and choose the following settings, and click **OK**.

**“Basic Setup”**

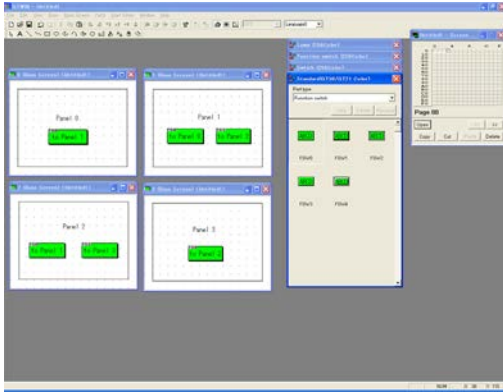
“Operation Mode” ---- “Change Screen”  
 “Screen No.” ---- 2

**“ON/OFF Indication”** ---- “Device”

**“Character”**

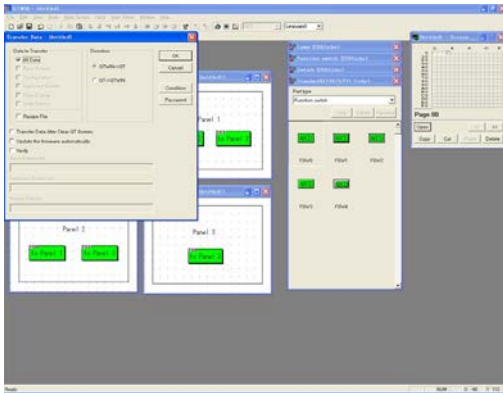
ON “Character String” --- “to Panel 2”  
 OFF “Character String” --- “to Panel 2”

### 13. Write characters on the “Base Screen” windows.



Click “Character String” icon and write “Panel 0” on the No. 0 “Base Screen” window, “Panel 1” on the No. 1 “Base Screen” window, “Panel 2” on the No. 2 “Base Screen” window and “Panel 3” on the No. 3 “Base Screen” window.

### 14. Transfer the screen data created to GT.



Click [File]-[Transfer] so that the “Transfer Data” window is displayed. Choose the following settings and click **OK**.

“Data to Transfer” ---- “All Data”  
 “Direction” ---- “GTWIN → GT”

### 15. Check display on GT.



When transmission is completed, what was created on the No. 0 “Base Screen” window is displayed on GT.

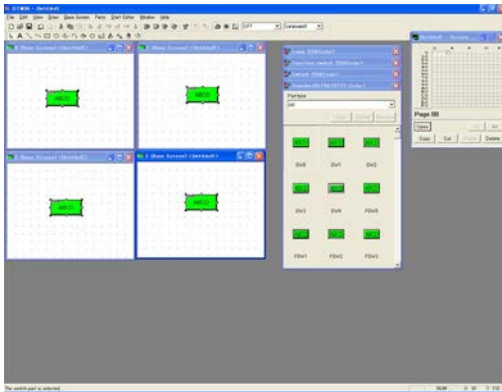
Press switches on the display panel and check whether screens switch properly.

The orders that the screen switches are as follows.

Panel 0→Panel 1→Panel 2→Panel 3  
 Panel 0←Panel 1←Panel 2←Panel 3

## 4.1.2 Switching between Screens Using Switch Parts and the PLC Program

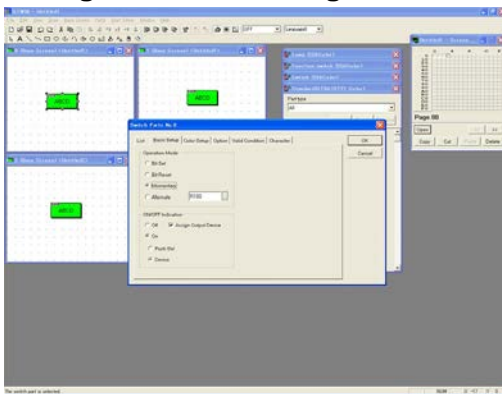
1. Open the No. 0, 1, 2, 3 “Base Screen” windows and place a Switch part on each.



Double-click the No. 0, 1, 2 and 3 on the “Screen Manager” window so that their “Base Screen” windows are displayed.

From “Standard” Parts Library, drag “SW0” and drop it on each “Base Screen” window.

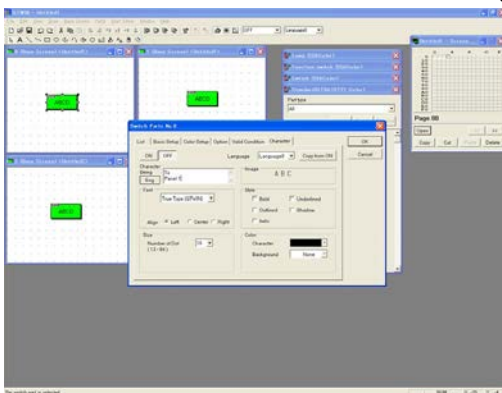
2. Double-click the Switch part on the No. 0 “Base Screen” window and change its basic settings.



Set the basic setting for the “SW0” on the No. 0 base screen as follows.

“Basic Setup”  
 “Operation Mode” ---- “Momentary”  
 “R100”

3. Click the “Character” tab and change its settings.

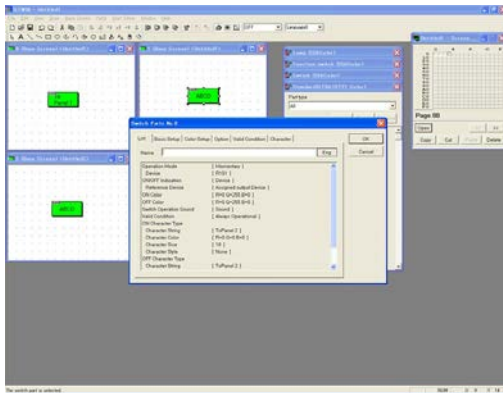


Enter the following, and click **OK**.

“Character”  
 ON “Character String” ---- “to Panel 1”  
 OFF “Character String” ---- “to Panel 1”



**4. Double-click the Switch part on the No. 1 “Base Screen” windows and change its settings.**

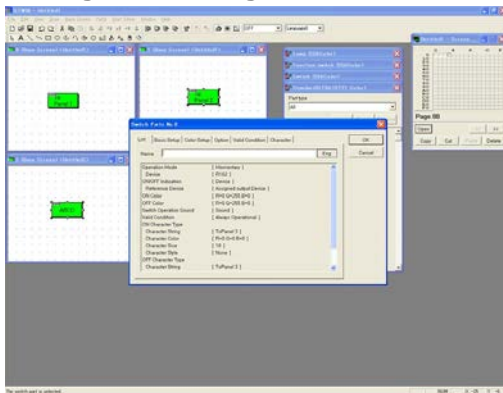


Double-click the switch part on the No. 1 base screen, and change the settings. Specify as follows for the basic setup and character setting for the “SW0” on the No. 1 base screen, and click **OK**.

**“Basic Setup”**  
**“Operation Mode”** ---- “Momentary”  
 “R101”

**“Character”**  
 ON “Character String” --- “to Panel 2”  
 OFF “Character String” --- “to Panel 2”

**5. Double-click the Switch part on the No. 2 “Base Screen” windows and change its settings.**

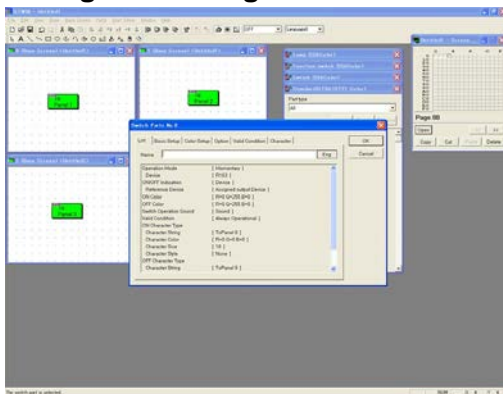


Double-click the switch part on the No. 2 base screen, and change the settings. Specify as follows for the basic setup and character setting for the “SW0” on the No. 2 base screen, and click **OK**.

**“Basic Setup”**  
**“Operation Mode”** ---- “Momentary”  
 “R102”

**“Character”**  
 ON “Character String” --- “to Panel 3”  
 OFF “Character String” --- “to Panel 3”

**6. Double-click the Switch part on the No. 3 “Base Screen” windows and change its settings.**



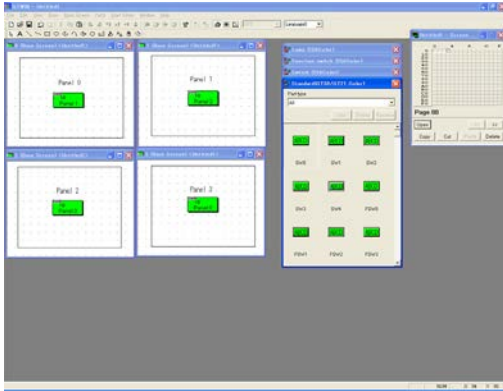
Double-click the switch part on the No. 3 base screen, and change the settings. Specify as follows for the basic setup and character setting for the “SW0” on the No. 3 base screen, and click **OK**.

**“Basic Setup”**  
**“Operation Mode”** ---- “Momentary”  
 “R103”

**“Character”**  
 ON “Character String” --- “to Panel 0”  
 OFF “Character String” --- “to Panel 0”

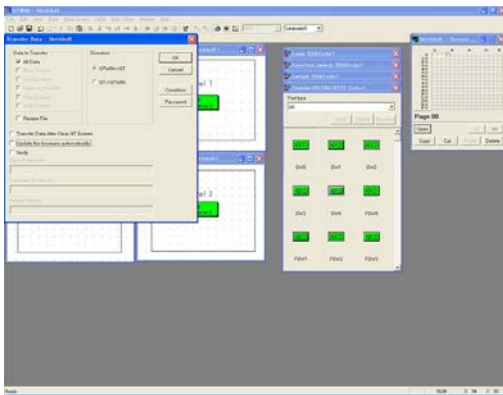


### 7. Check each base screen windows.



When all the settings are completed, the display screen will be as the left figure.

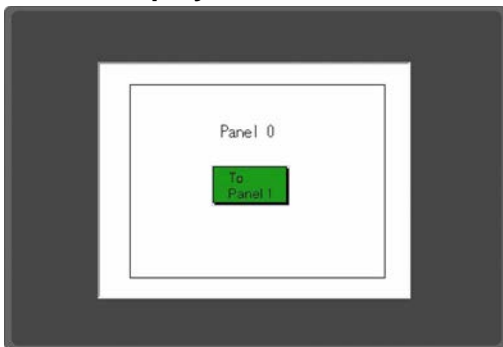
### 8. Transfer the screen data created to GT.



Click [File]-[Transfer] so that the “Transfer Data” window is displayed.  
Choose the following settings and click **OK**.

“Data to Transfer” ---- “All Data”  
“Direction” ---- “GTWIN → GT”

### 9. Check display on GT.

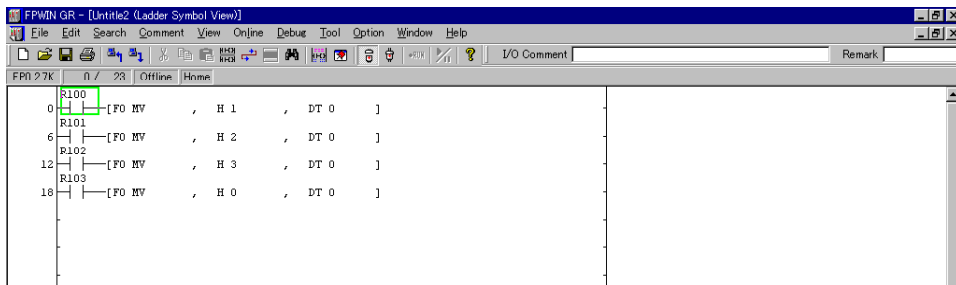


When transmission is completed, what was created on the No.0 “Base Screen” window is displayed initially on GT.

## 10. Create a program and check the performance.

### [Example] When checking performance with FPWIN GR.

Start up the FPWIN GR. Create a program as below and download it to the PLC.



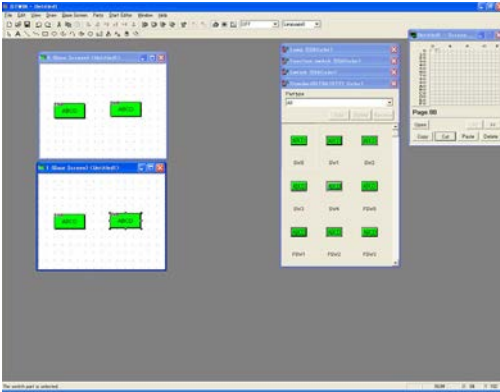
After downloading is complete, press the switch created on the display panel and check whether the program works properly.

The screen should change as below.

R100→R101→R102→R103  
R100←R103

### 4.1.3 By Function Switch Parts and the PLC Program

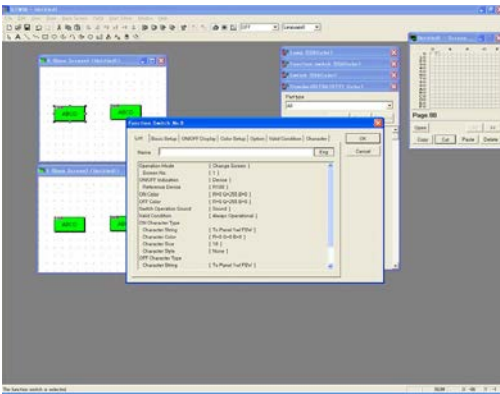
1. Open the No. 0 and 1 “Base Screen” windows, and place a Function switch part and a Switch part on each.



Open the No. 0 and 1 “Base Screen”.

From the “Standard” Parts Library, drag “FS0” and “SW0”, and drop them on each “Base Screen” window.

2. Double-click the Function switch part on the No. 0 “Base Screen” windows and change its settings.



Double-click “FS0” on the No.0 “Base Screen” window, and choose the following settings, and click **OK**.

“Basic Setup”

“Operation Mode” ---- “Change Screen”

“Screen No.” ---- 1

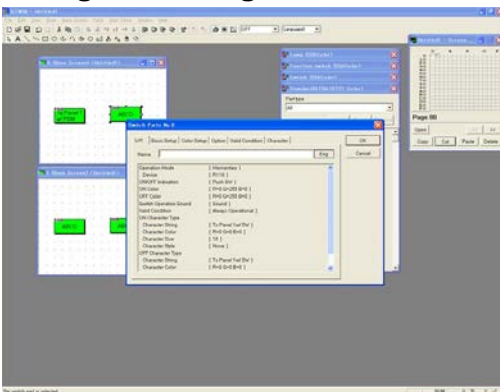
“ON/OFF Indication” ---- “Device”

“Character”

ON “Character String” --- “to Panel 1w/FSW”

OFF “Character String” --- “to Panel 1w/FSW”

3. Double-click the Switch part on the No. 0 “Base Screen” windows and change its settings.



Double-click “SW0” on the No.0 “Base Screen” window, and choose the following settings, and click **OK**.

“Basic Setup”

“Operation Mode” ---- “Momentary”

“R110”

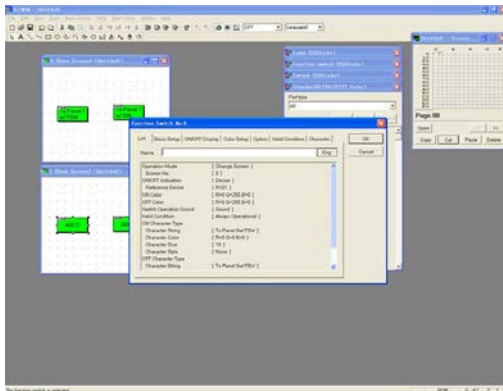
“ON/OFF Indication” ---- “Push SW”

“Character”

ON “Character String” --- “to Panel 1w/SW”

OFF “Character String” --- “to Panel 1w/SW”

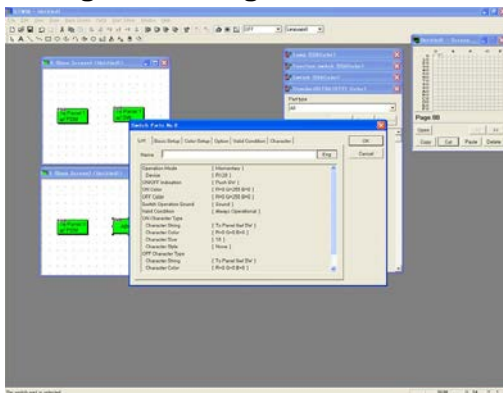
**4. Double-click the Function switch part on the No. 1 “Base Screen” windows and change its settings.**



Double-click “FS0” on the No.1 “Base Screen” window, and choose the following settings, and click **OK**.

- “Basic Setup”
  - “Operation Mode” ---- “Change Screen”
  - “Screen No.” ---- 0
- “ON/OFF Indication” ---- “Device”
  - Device “R101”
- “Character”
  - ON “Character String” --- “to Panel 0w/FSW”
  - OFF “Character String” ---“to Panel 0w/FSW”

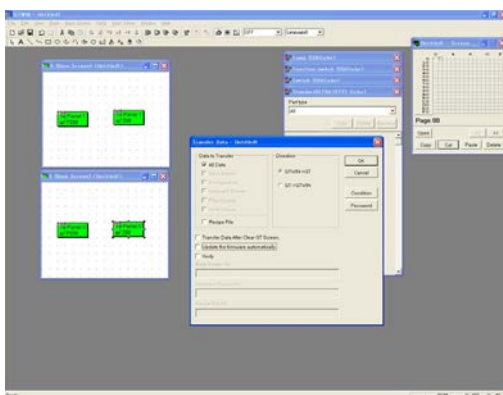
**5. Double-click the Switch part on the No. 1 “Base Screen” windows and change its settings.**



Double-click “SW0” on the No.0 “Base Screen” window, and choose the following settings, and click **OK**.

- “Basic Setup”
  - “Operation Mode” ---- “Momentary”
  - “R102”
- “ON/OFF Indication” ---- “Push SW”
- “Character”
  - ON “Character String” --- “to Panel 0w/SW”
  - OFF “Character String” --- “to Panel 0w/SW”

**6. Write characters on the “Base Screen” windows and transfer the screen data created to GT.**



Write “Panel 0” on the No. 0 “Base Screen” window and “Panel 1” on the No. 1 “Base Screen” window.

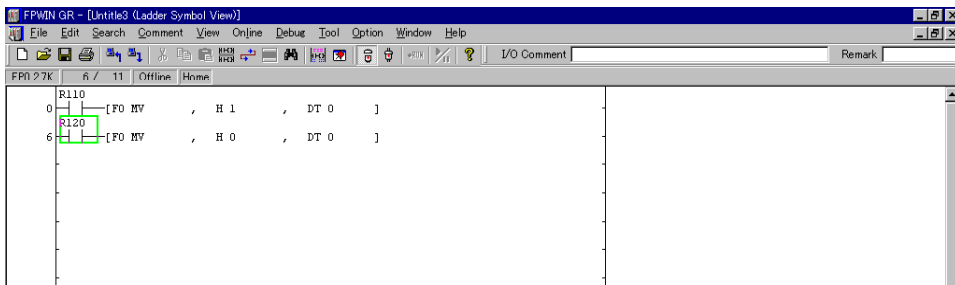
Click [File]-[Transfer], so that the “Transfer Data” window is displayed. Choose the following settings and click **OK**.

- “Data to Transfer” ---- “All Data”
- “Direction” ---- “GTWIN → GT”

## 7. Create a program and check the performance.

### [Example] When checking performance with FPWIN GR.

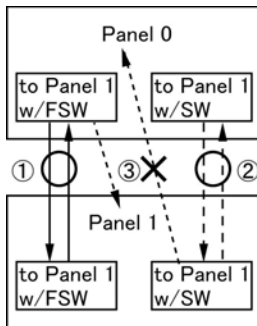
Start up the FPWIN GR. Create a program as below and download it to the PLC.



After downloading is complete, press the switch created on the display panel and check whether the program works properly.



#### Note:



Switching between screens according to schemes (1) and (2) is possible.

(1) Turn ON a → goes to Panel 1.

Turn ON c → goes to Panel 0.

(2) Turn ON b → goes to Panel 1.

Turn ON d → goes to Panel 0.

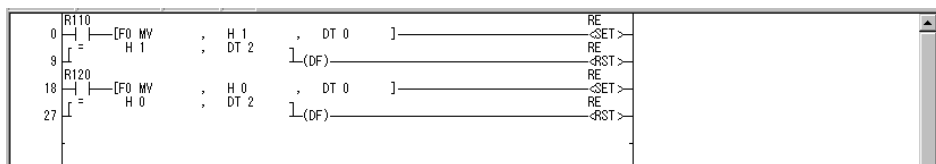
However, switching between screens according to scheme (3) is not possible.

(3) Turn ON a → goes to Panel 1.

Turn ON d → goes to Panel 0.

Bear in mind that switching as shown in scheme (3) often happens when a Function switch part and a Switch part are used together.

Change the previous program to the program shown below, to enable to switch screens with the above (3).



Switching between screens is possible by turning the forced – display flag (internal relay RE) on. Once the screen has been switched, turn the RE off.



# Chapter 5

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## **Practical Use (1) (For All GT Series)**

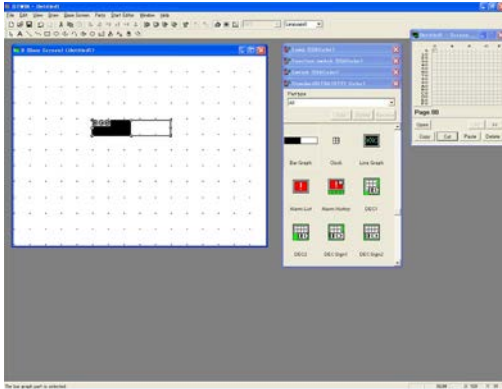
# 5.1 Bar Graph Parts

## What are Bar graph parts?

Bar graph parts display changes in the values of the PLC device used as a reference, in bar graph format. Value change can be displayed on the graph in the vertical or horizontal direction.

### 5.1.1 Displaying a Bar Graph Utilizing the PLC Timer (Program)

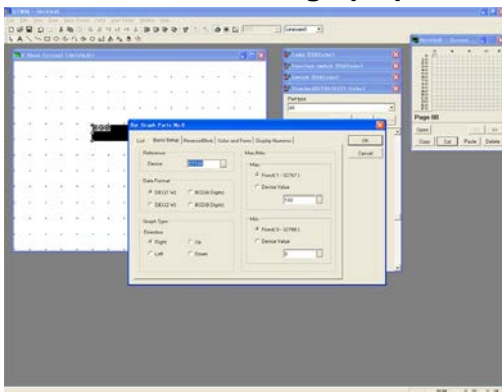
#### 1. Open the No. 0 “Base Screen” window and place a Bar graph part.



Click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From the “Standard” Parts Library, drag “Bar Graph” and drop it on the “Base Screen” window.

#### 2. Double-click the Bar graph part and change its basic settings.



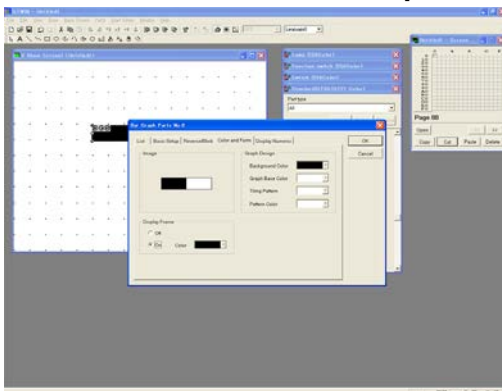
Double-click “BG0”, so that the “Bar Graph Parts” dialog box - <Basic Setup> tab is displayed.

Keep the default.

- “Device” ---- “DT100”
- “Data Format” ---- “DEC1W”
- “Graph Type Direction” ---- “Right”
- “Max.” ---- “Fixed 100”
- “Min.” ---- “Fixed 0”

Also keep the default settings for <Reverse/Blink> tab.

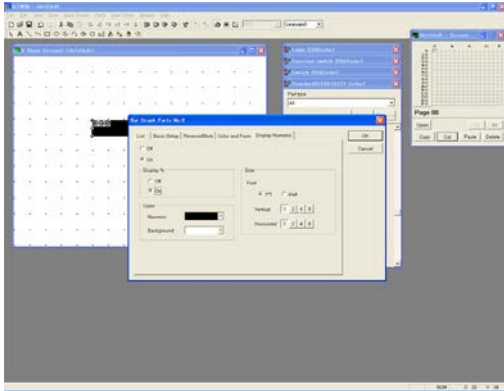
#### 3. <Color and Form> tab – Keep the default settings.



Click “Color and Form” tab.  
Keep default settings.



#### 4. <Display Numeric> tab - Change the settings.



Click <Display Numeric> tab.

Select "On" so that the related items appear. Choose the following settings and click **OK**.

**"Display %"** ---- "On"

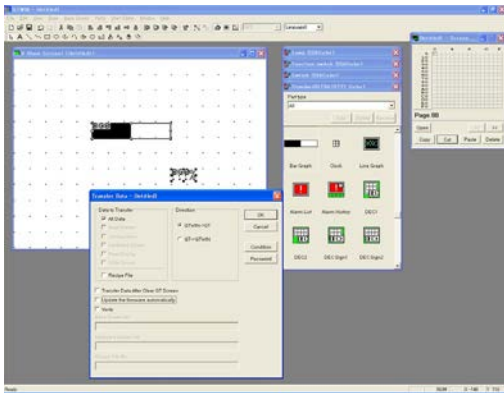
**"Size"**

**"Font"** ---- "1\*1"

"Display Numeric" indicates the percentage of the maximum value and the minimum value set in the procedure 2.

The character "%" can be indicated after the figure shown in percentage by selecting "On" for "Display %".

#### 5. Transfer the created screen data to GT.



When all the settings on "Bar Graph Parts" dialog box are completed, click **OK**.

A zone for **"Display %"** will appear on the "Base Screen" window. Move it under "BG0" as shown on the left and click it to place it.

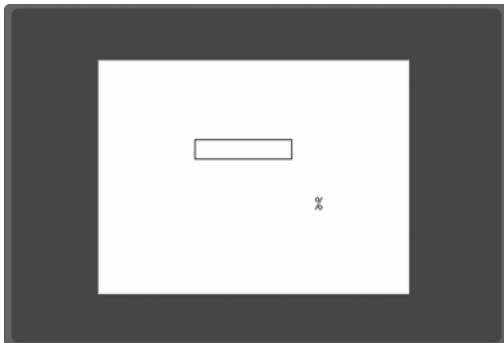
Click [File]-[Transfer] so that the "Transfer Data" window is displayed.

Choose the following settings and click **OK**.

**"Data to Transfer"** ---- "All Data"

**"Direction"** ---- "GTWIN -> GT"

#### 6. Check display on GT.

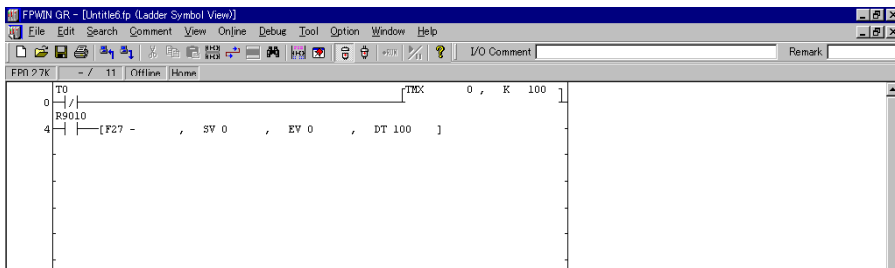


When transmission is completed, the Bar graph part created using GTWIN is displayed on GT.

## 7. Create a program and check the performance.

### [Example] When checking performance with FPWIN GR.

Start up the FPWIN GR. Create a program as below and download it to the PLC.

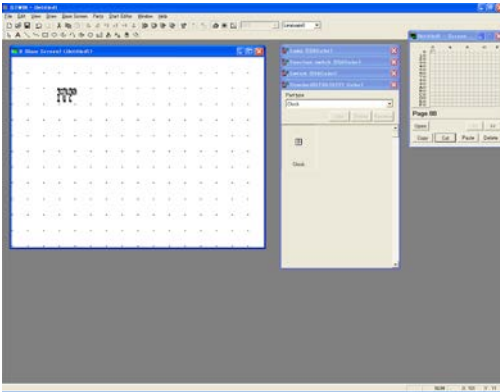


After downloading is completed, check performance of the Bar graph part on the display panel and the one of the timer in the program.

## 5.2 Clock Parts

### 5.2.1 Clock Function

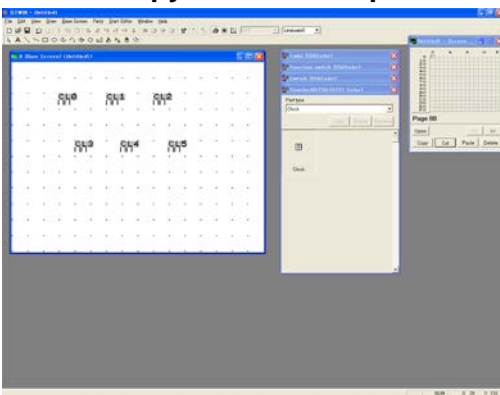
#### 1. Open the No. 0 “Base Screen” window and place a Clock part.



Double-click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From “Standard” Parts Library, drag “Clock” and drop it on the “Base Screen” window.

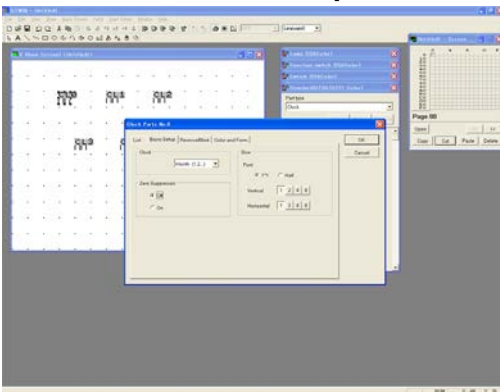
#### 2. Make a copy of the Clock part.



Make 5 copies of the Clock part and place them as shown on the left.

Copying can be done by selecting [Copy] from the menu, or by pressing Ctrl + C while the part is selected.

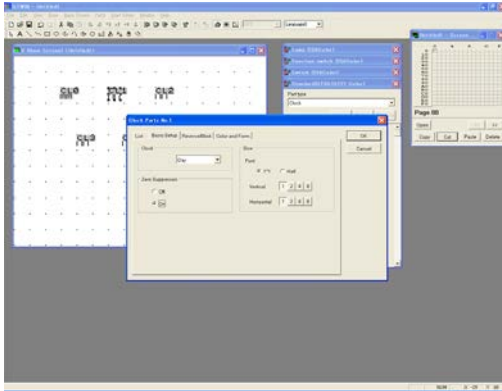
#### 3. Double-click the Clock part, “CL0”, and change its settings.



Double-click “CL0”, so that “Clock Parts” dialog box - <Basic Setup> tab is displayed. Choose the settings below, and click **OK**.

“Clock” ---- “Month”  
“Zero Suppression” ---- “None”

**4. Double-click the Clock part at top center, and change its settings.**

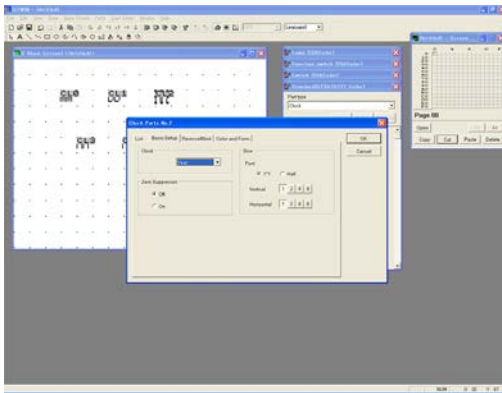


Double-click "CL1" at top center so that the "Clock Parts" dialog box - <Basic Setup> tab is displayed.

Choose the settings below, and click **OK**.

**"Clock" ---- "Day"**

**5. Double-click the Clock part at top right, and change its settings.**



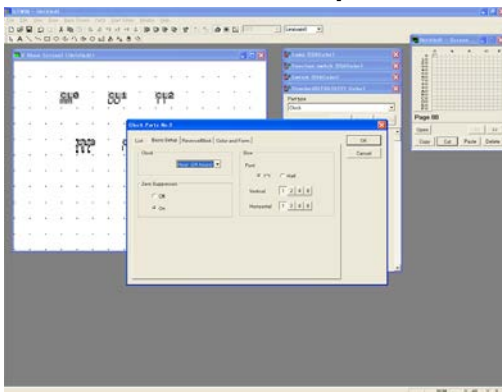
Double-click "CL2" at top right so that the "Clock Parts" dialog box - <Basic Setup> tab is displayed.

Choose the settings below, and click **OK**.

**"Clock" ---- "Year"**

**"Zero Suppression" ---- "Off"**

**6. Double-click the Clock part at bottom left, and change its settings.**

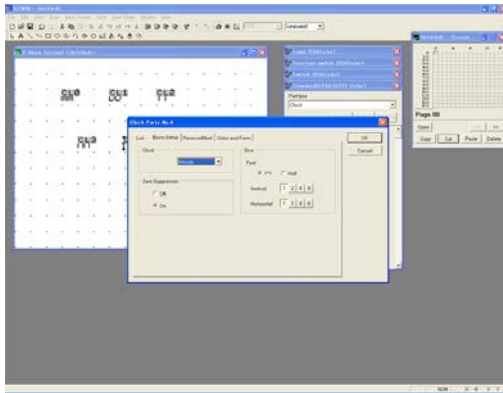


Double-click "CL3" at bottom left so that the "Clock Parts" dialog box - <Basic Setup> tab is displayed.

Choose the settings below, and click **OK**.

**"Clock" ---- "Hour[24 Hours]"**

**7. Double-click the Clock part at bottom center, and change its settings.**

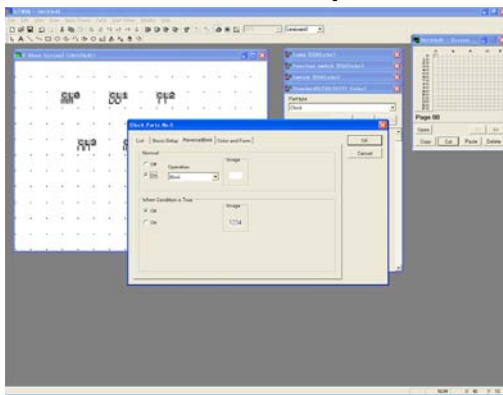


Double-click "CL4" at bottom center so that the "Clock Parts" dialog box - <Basic Setup> tab is displayed.

Choose the settings below, and click **OK**.

**"Clock" ---- "Minute"**

**8. Double-click the clock part at bottom right, and change its settings.**



Double-click "CL5" at bottom right so that the "Clock Parts" dialog box - <Basic Setup> tab is displayed.

Choose the settings below, and click **OK**.

<Basic Setup>

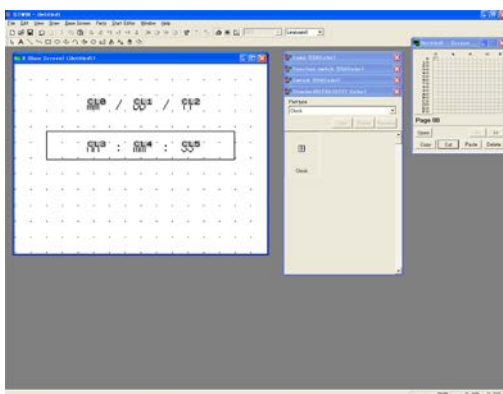
**"Clock" ---- "Second"**

<Reverse/Blink>

**"Normal" ---- Select "On"**

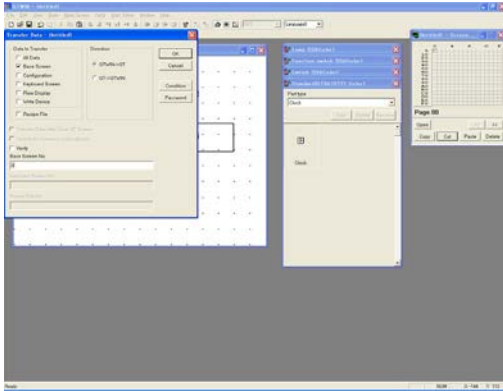
**"Operation" ---- "Blink"**

**9. Write characters and draw a frame on the "Base Screen" window.**



After all the settings are completed, surround the time display with a frame, enter "/" (slash) in between for the date display and ":" (colon) between Hour, Minute and Second, as shown on the left.

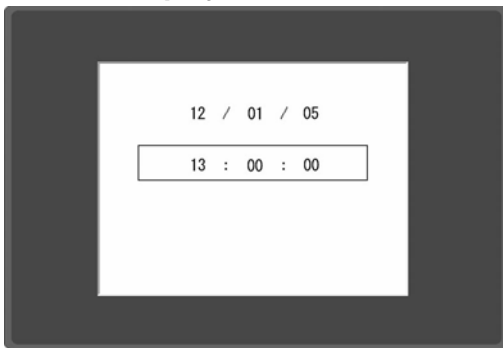
## 10. Transfer the created screen data to GT.



Click [File]-[Transfer] so that the “Transfer Data” window is displayed.  
Choose the following settings and click **OK**.

“Data to Transfer” ---- “Base Screen”  
“Direction” ---- “GTWIN → GT”  
“Base Screen No.” ---- “0”

## 11. Check display on GT.



When a transmission is completed, the screen (displaying the date and time) created using GTWIN is displayed on the Programmable Operator Terminal.



### Note:

When using the clock parts, it is selected either GT clock or PLC clock in the configuration settings.

#### GT clock

It can be selected for GT11, GT21 and GT30 when a battery has been installed.

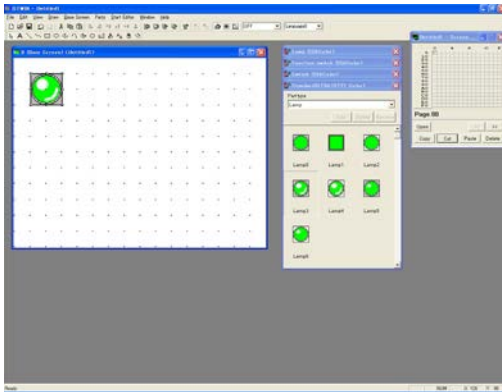
#### PLC clock

It can be selected for all the types.

Always select the PLC clock for GT01 or when a battery has not been used, as they do not have their own internal clock.

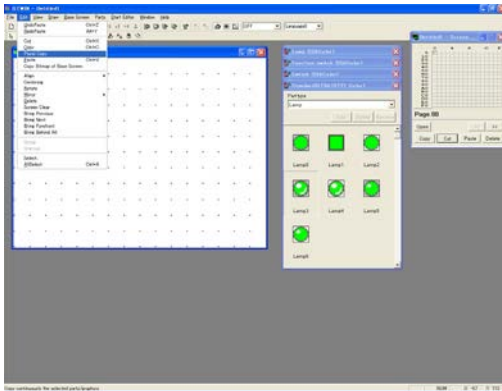
## 5.3 How to Paste the Same Part Multiple Times

1. Open the No. 0 “Base Screen” window. Drag “Lamp3” and drop it on the “Base Screen” window.

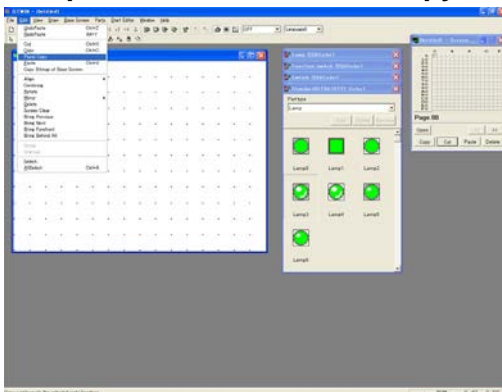


Drop it on the top-left of the “Base Screen” window.

2. While “LP0” is selected, select [Edit] – [Plural Copy] from the main menu.



3. Set parameters for “Plural Copy” window.



Choose the settings below and click .

“Direction” ---- Keep the default.

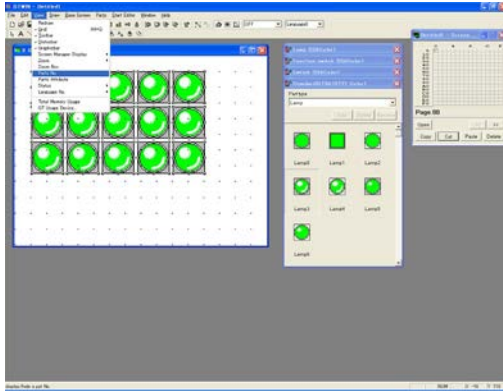
“Number of Copies”  
 “Vertical” ---- 3  
 “Horizontal” ---- 5

“Distance”  
 “Vertical” ---- 5  
 “Horizontal” ---- 5

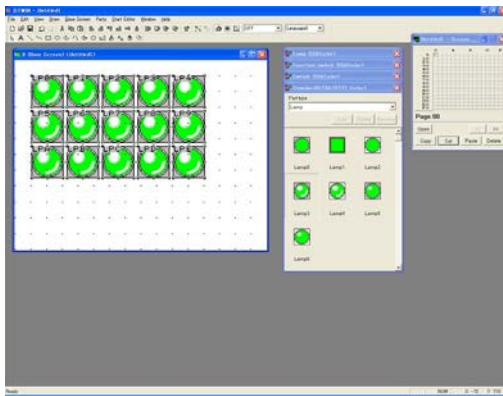
“Change Attributes”  
 “ON/OFF Bit” ---- checked.  
 “Step” ---- 1

\* Value to be added to the screen No. or address of adjacent parts

#### 4. Check what created on the “Base Screen” window.



Select [View] - [Parts Attribute] from the main menu.



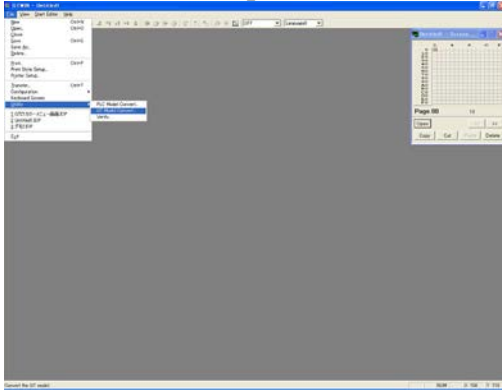
The parts copied under conditions set in step 3 above are displayed on the “Base Screen” window.

This [Plural Copy] is available for all the parts.



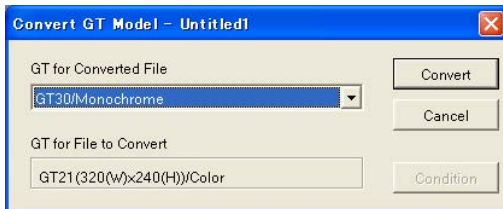
## 5.4 How to Convert G T Model for Screen Data

1. **Open a screen data you want to change. Select [File] – [Utility] – [GT Model Convert].**



Once the data was converted, the GT model cannot be changed to the previous model. It is recommended to rename a file before conversion.

2. **Select a GT model you want to convert to, and click “Convert” button.**



Selectable models are of which No. of screen dot is equal to/larger than the No. of screen dot of the model before conversion.

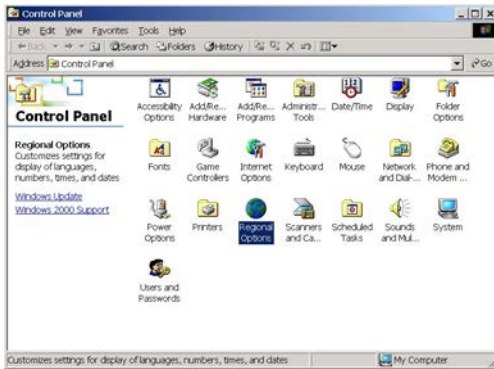
# 5.5 Multi-language Function

## 5.5.1 How to Input multiple languages using Windows®2000 or Windows®XP

The multiple language input is possible for GTWIN used on Windows®2000 or Windows®XP. How to personalize your computer for the multiple language input is explained below.

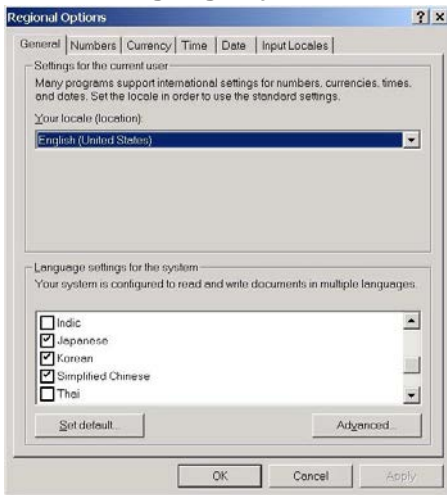
### For Windows®2000

#### 1. Select “Regional Options”.



Select [Start] - [Settings] - [Control Panel] and double-click “Regional Options”.

#### 2. Select languages you want to use.

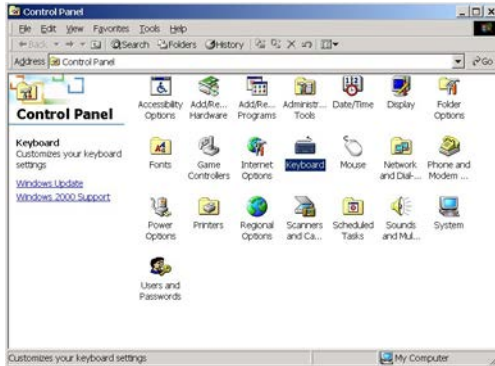


“Regional Options” is displayed.

Check in “Language settings for the system” the languages you need. (GTWIN handles Japanese, Western Europe and the United States, Traditional Chinese, Simplified Chinese and Korean.)

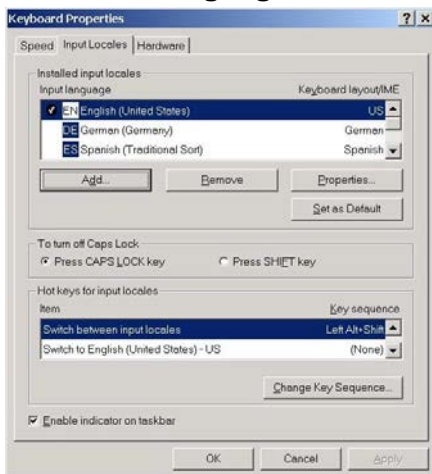
When finished setting, click **OK**.

### 3. Set a keyboard.



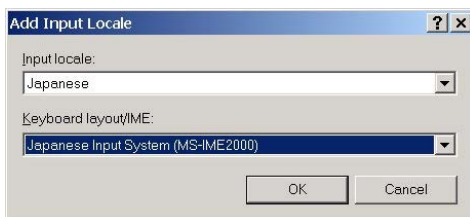
Double-click "Keyboard" on the control panel.

### 4. Select the languages for the keyboard you want.



"Keyboard Properties" window is displayed.

Click <Input Locales> tab and press **Add** of the "Installed input locales".



"Add Input Locale" window is displayed. Select the language you want to add, and click **OK**. If you want to input multiple languages, repeat the procedures 3 and 4.

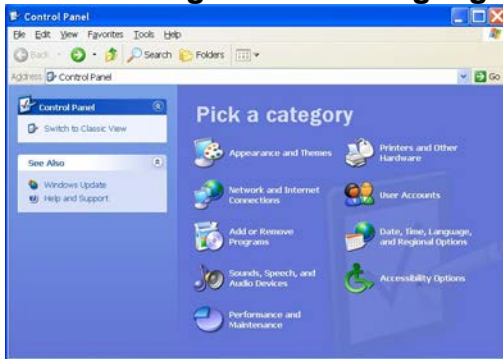
### 5. Change input languages.



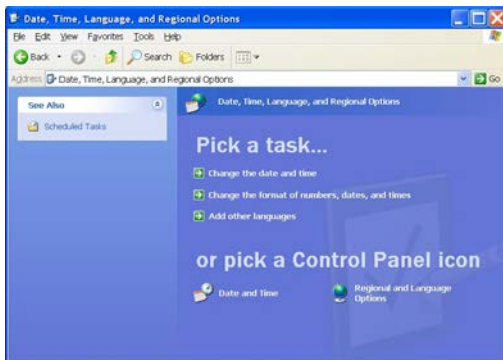
Click the input system to change input languages.

## For Windows®XP

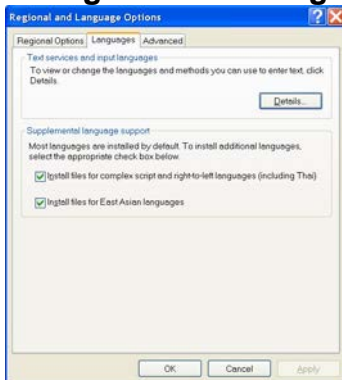
### 1. Select “Regional and Language Options”.



Select [Start] - [Control Panel] and double-click “Date, Time, Language and Regional Options”.  
Select “Regional and Language Options”.



### 2. “Regional and Language Options” dialog box is displayed.



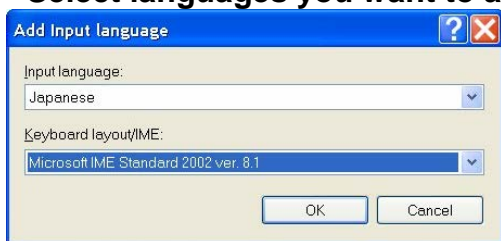
“Regional and Language Options” dialog box is displayed. Select <Languages> tab and click **Details** button.

### 3. “Text Services and Input Languages” dialog box is displayed.



“Text Services and Input Languages” dialog box is displayed. Press **Add** button.

#### 4. Select languages you want to add.



“Add Input Language” dialog box is displayed. Select the language you want to add, and click **OK**.

If you want to input multiple languages, repeat the procedures 3 and 4.

GTWIN handles Japanese, Western Europe and the United States, Traditional Chinese, Simplified Chinese and Korean.)

#### 5. Select input languages.



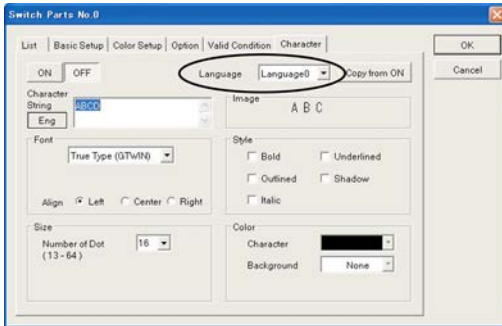
Click the input system to change input languages.



## NOTE

When you practice the multiple language input, select the language you want in the IME and make the following settings in GTWIN. If these settings are not made, garbage characters will be displayed.

### 1. With parts from the “Standard” Parts Library.



It is necessary to select languages in the character settings for the switch, lamp and message parts in the standard parts library.

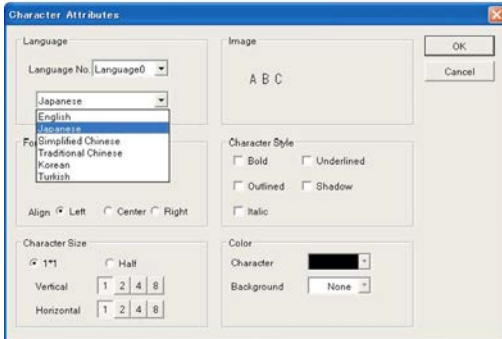
Set the language you want to use in <Character> tab.

Click where circled in the left figure to set the language you want.

### 2. With custom parts or when writing characters on the “Base Screen” window



Click the “Character Type” icon and select the language you want.



## 5.6 Line Graph Parts

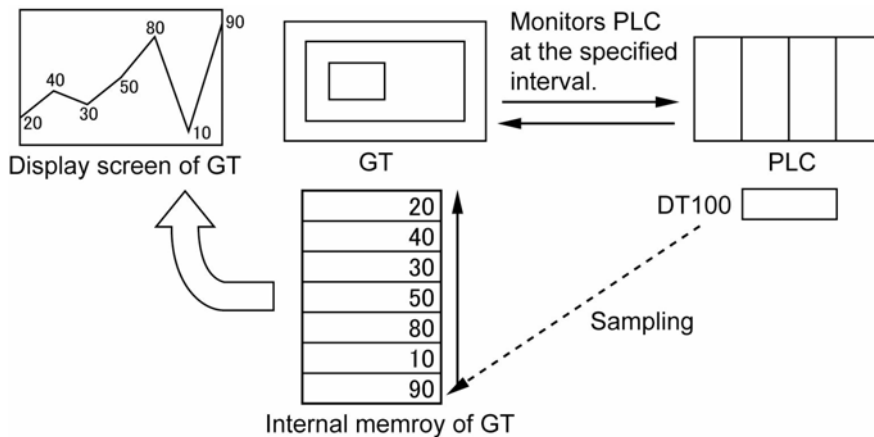
### 5.6.1 Line Graph Function

#### Sampling Method

PLC data is read into the internal memory of the GT at the specified interval in 1-word or 2-word units and is displayed as a line graph.

#### Performance

- (1) GT reads data from PLC at the specified time interval and saves them in the internal memory of GT.
- (2) The values saved in the internal memory of GT will be displayed using a line graph part.
- (3) The graph will be updated at the specified time interval.

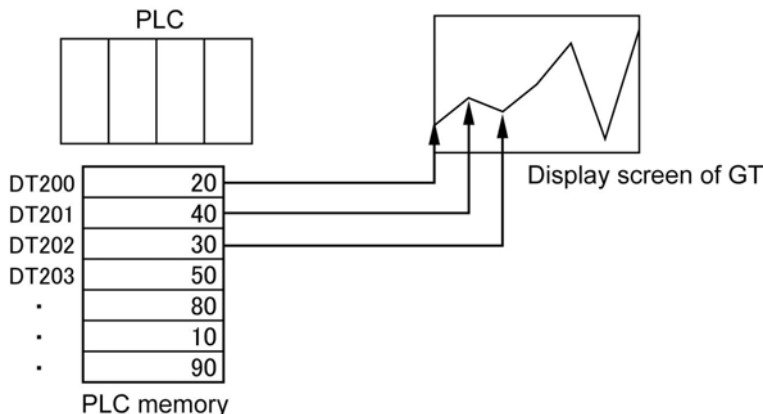


#### Block Method

The specific bit of the PLC device is set as a trigger signal in advance, and when it goes ON, PLC data for multiple words are read in block and displayed in graph.

#### Performance

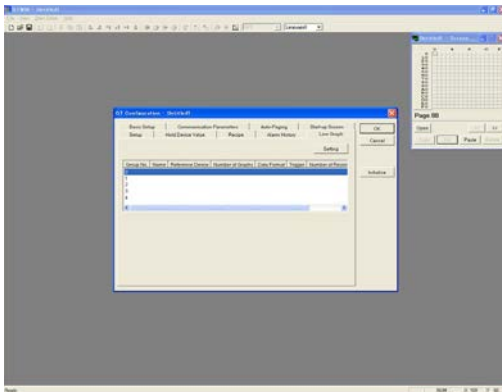
- (1) When the specified bit of the PLC device goes ON, GT starts reading data of PLC.
- (2) The read values are displayed using a Line graph part.
- (3) The graph will be always updated while the specified bit is ON.





## 5.6.2 Sampling and Graphical Display of PLC Data at Specified Intervals

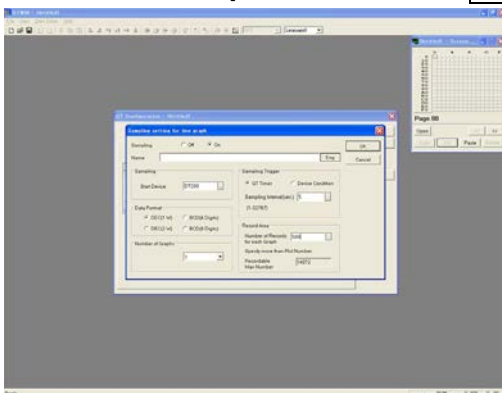
### 1. Set a sampling method in “GT Configuration” dialog box.



Select [File] - [Configuration] - [GT Configuration] so that “GT Configuration” dialog box is displayed.

Click <Line Graph> tab.

### 2. Select the Group No. 0 and click **Setting** to make a sampling setting.



The “Sampling setting for line graph” dialog box is displayed.

Select “On” for “Sampling” so that its related items appear.

Choose the following settings and click **OK**.

“Sampling” ---- “On”

“Start Device” ---- [DT200]

“Data Format” ---- DEC[1W]

“Number of Graphs” ---- 1

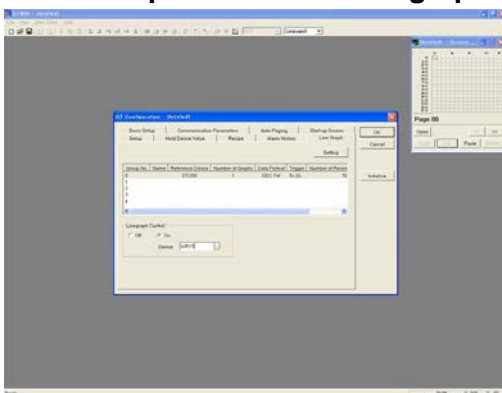
“Sampling Trigger” ---- “GT Timer”

“Sampling Interval[sec.]” ---- “5”

“Record Area”

“Number of Records for each Graph” ---- 500”

### 3. <Line Graph> tab - Set “Linegraph Control”.



Do the following setting and click **OK**.

“Linegraph Control” ---- “On”

“Device” ---- “WR15”

Now, settings for the “GT Configuration” dialog box are completed.

## What to Set in “GT Configuration” Dialog Box - <Line Graph> tab

Up to 5 sampling methods, in Group No. 0 to No. 4, can be set.

### “Sampling” - “Start Device”

GT samples PLC data from the specified “Start Device” for the number of words set by (“Number of Graphs” x “Data Format”).

If “Number of Graphs” is set to 5 and “Data Format” is set to DEC[2 W], GT will sample PLC data from the “Start Device” for (5 x 2 words) = 10 words.

### “Data Format”

Specifies a format of data to be sampled.

### “Number of Graphs”

Sets the number of graphs to be sampled. This is not the number of graphs to be displayed on a Line graph screen. The number of lines to be displayed is set in “Line Graph Parts” dialog box - <Basic Setup> tab.

\*1: Set a value here bigger than the number of lines to be displayed.

\*2: The number of lines to be displayed is set in “Line Graph Parts” dialog box.

### “Sampling Trigger”

Specifies the timing of sampling. The “GT Timer” samples PLC data at the specified interval. When you want to sample PLC data depending on the status of PLC devices (bit ON/OFF), select “Device Condition”.

### “Record Area”

Sets the count of sampled data to be recorded. The sampled data will be stored in the internal memory of GT.

\* Set this value bigger than the value obtained by (“Number of Plots” x “Number of Graphs”).

### Line graph control device (2 words)

Address	F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0
n	Reserved (Do not use.)			Memory overflow of Group 4	Memory overflow of Group 3	Memory overflow of Group 2	Memory overflow of Group 1	Memory overflow of Group 0	Reserved (Do not use.)			Stop sampling for Group 4	Stop sampling for Group 3	Stop sampling for Group 2	Stop sampling for Group 1	Stop sampling for Group 0
n+1	Reserved (Do not use.)			Completed clearing memory of Group 4	Completed clearing memory of Group 3	Completed clearing memory of Group 2	Completed clearing memory of Group 1	Completed clearing memory of Group 0	Reserved (Do not use.)			Clears the memory of Group 4	Clears the memory of Group 3	Clears the memory of Group 2	Clears the memory of Group 1	Clears the memory of Group 0

### Stops sampling for the Group:

When the specific bit goes ON in PLC, GT stops sampling data of the PLC.

### Memory overflow of the Group:

When the number of alarms sampled exceeds “Number of Records for each Graph” set in the “GT Configuration” dialog box - <Line Graph> tab, the bit goes ON. Once it is ON, the ON status will be maintained until the memory is cleared.

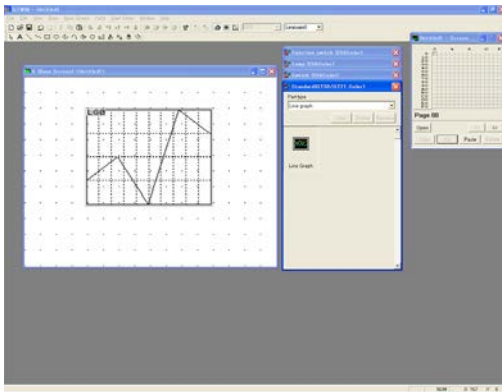
### Clears the memory of the Group:

When the specific bit goes ON in the PLC, the recorded contents will be cleared. Confirm that the memory clear complete flag is OFF before turning OFF the bit.

### Completed clearing a memory of the Group’s memory:

When GT has completed clearing the memory of the specified Group, GT makes the applicable bit in the PLC go ON. That bit will go OFF after GT confirms that the memory clear complete flag has gone OFF.

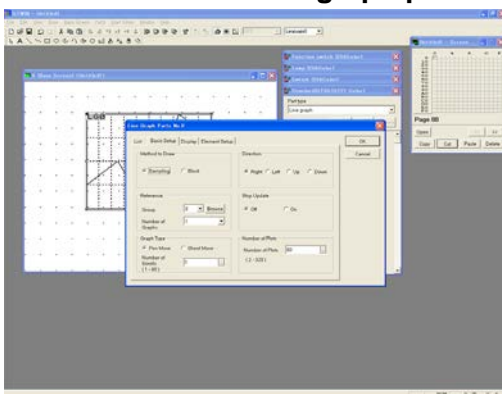
#### 4. Open the No. 0 “Base Screen” window and place a Line graph part.



Double-click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From the “Standard” Parts Library, drag “Line Graph” and drop it on the “Base Screen” window.

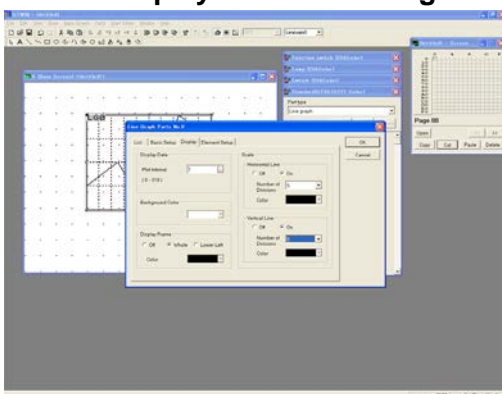
#### 5. Double-click the Line graph part and change its settings.



Double-click “LG0” on the “Base Screen” windows, and choose the following settings.

- “Method to Draw” ---- “Sampling”
- “Reference”
  - “Group” ---- “0”
  - “Number of Graphs” ---- “1”
- “Graph Type” ---- “Pen Move”
  - “Number of Scrolls” ---- “1”
- “Direction” ---- “Right”
- “Stop Update” ---- “Off”
  - “Number of Plots” ---- “80”

#### 6. Click <Display> tab and change the settings.



Click <Display> tab, and choose the following settings;

- “Display Data”
  - “Plot Interval” ---- “1”
- “Display Frame” ---- “Whole”
- “Background Color” ---- “White”
- “Scale”
  - “Horizontal Line” ---- “On”
    - “Number of Divisions” ---- “5”
  - “Vertical Line” ---- “On”
    - “Number of Divisions” ---- “5”

## **“Line Graph Parts” Dialog Box - <Basic Setup> Items**

### **“Method to Draw”**

“Sampling” samples the values of the PLC (in 1 word or 2 word segments) and displays them as a line graph.

“Block” reads the values stored in the internal memory of the PLC all at once and displays them in a line graph.

### **“Reference”**

Specifies the Group No. set in the “GT Configuration” dialog box - <Line Graph> tab, so that its sampling method will be set.

“Number of Graphs” sets the number of graph lines to be displayed in a graph (up to 8 lines).

### **“Graph Type”**

Select the plot method, “Pen Move” or “Sheet Move”.

“Pen Move” draws a graph by moving a pen.

“Sheet Move” draws a graph by moving a sheet with the fixed pen.

### **“Direction”**

Sets the direction of a pen or a sheet movement.

\* A graph display will vary depending on the settings for “Graph Type” and “Direction”. Check how it looks on the panel display of GT.

### **“Stop Update”**

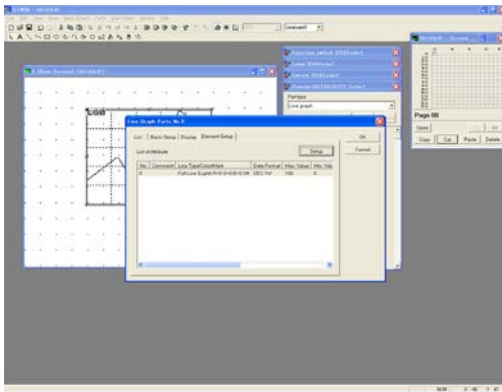
“On” stops updating a graph when the specified bit of the PLC device goes ON. However, sampling does not stop.

### **“Number of Plots”**

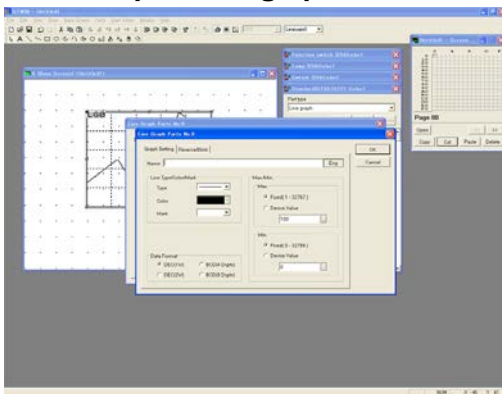
Set the number of data to be plotted on a graph.

If this is set to 100, “Number of Records for each Graph” in the “GT Configuration” dialog box - <Line Graph> tab should be more than 100.

7. Click <Element Setup> tab, and double-click the Group No. 0.



8. Set <Graph Setting> parameters.



“Line Type/Color/Mark” ----  
Select what you want.

Keep the default below.

“Data Format” ---- [DEC1W]

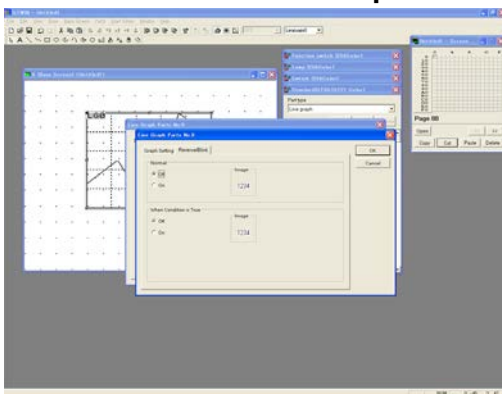
“Max./Min.”

“Max.” ---- “Fixed”, “100”

“Min.” ---- “Fixed”, “0”

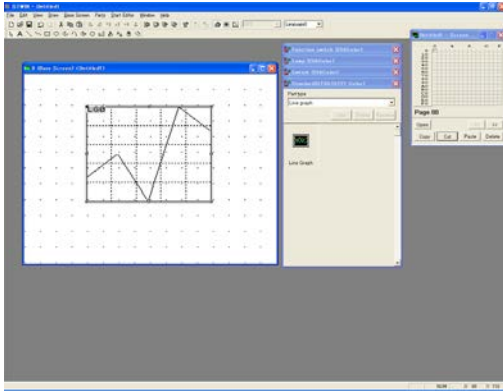
\* “Max.” and “Min.” are for the Max. and Min. values in Y axis of the graph.

9. <Reverse/Blink> tab - Keep the default settings.

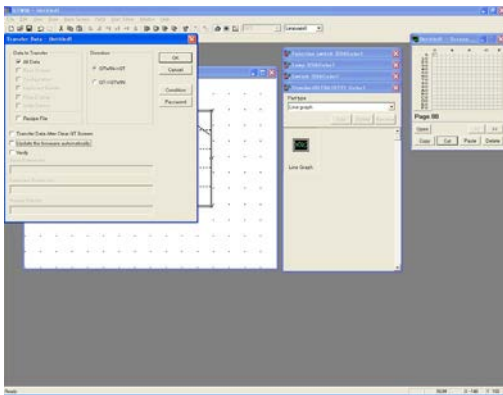


Click **OK** to close the dialog box.

## 10. Check the graph on the “Base Screen” window.



## 11. Transfer the screen data created to GT.



Click [File]-[Transfer] so that the “Transfer Data” window is displayed.

Choose the following settings and click **OK**.

“Data to Transfer” ---- “All Data”

“Direction” ---- “GTWIN → GT”

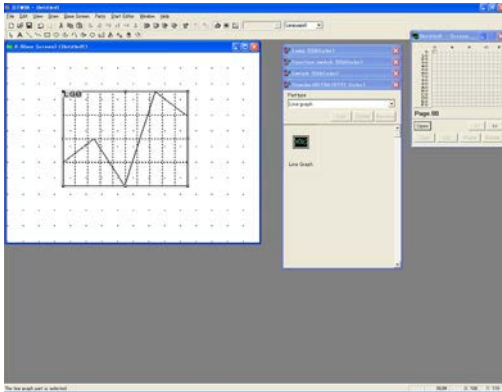
## 12. Check the performance.

Input a value from 0 to 100 for DT200 and check whether the graph is updated every 5 seconds.

The recorded data can be deleted by the Line Graph Control device. Here, turn ON the memory clear for the Group 0 of R160.

## 5.6.3 Reading PLC Devices in block and Displaying in Graph

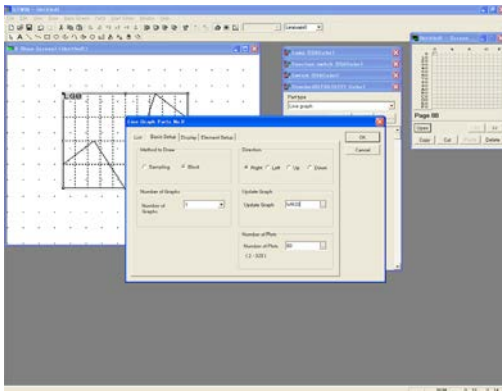
### 1. Open the No. 0 “Base Screen” window and place a Line graph part.



Double-click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From the “Standard” Parts Library, drag “Line Graph” and drop it on the “Base Screen” window.

### 2. Double-click the Line graph part and change its basic settings.



Double-click “LG0”, so that “Line Graph Parts” dialog box - <Basic Setup> tab is displayed. Choose the settings below:

“Method to Draw” ---- “Block”

“Number of Graphs” ---- “1”

“Direction” ---- “Right”

“Update Graph”

“Update” ---- “WR20”(\*1)

“Number of Plots” ---- “80”

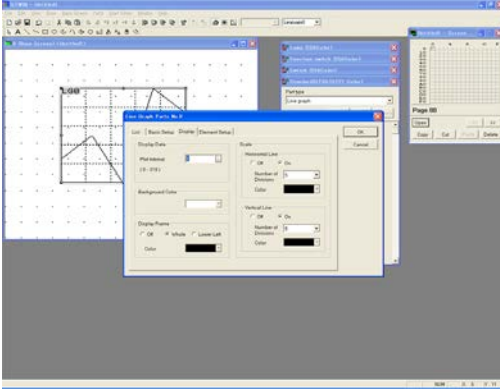


#### Key Point:

\*1: When the bit of the device specified in “Update Graph” is ON, a graph will be updated.  
Bit 0 is applied to Graph No. 0 and bit 1 to Graph No. 1.  
When the bit is OFF, a graph will not be updated.

\*2: For the Block method, no setting is required in the “GT Configuration” dialog box -<Line Graph> tab.

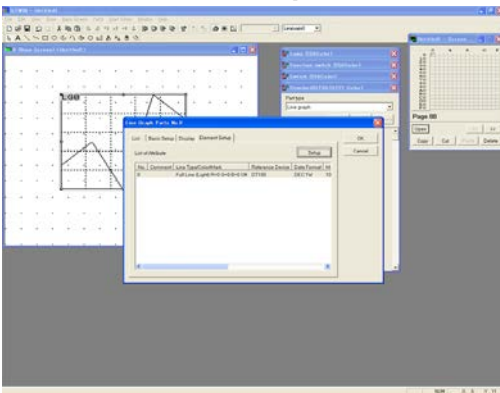
### 3. <Display> tab - Set parameters.



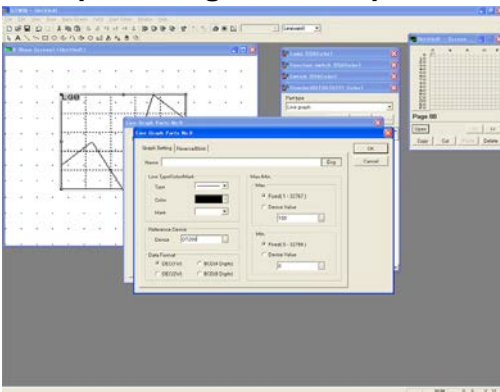
Choose the following settings:

- “Display Data”
- “Plot Interval” ---- “1”
- “Display Frame” ---- “Whole”
- “Scale”
- “Horizontal Line” ---- “On”
- “Number of Division” ---- “5”
- “Vertical Line” ---- “On”
- “Number of Division” ---- “5”

### 4. Click <Element Setup> tab, and double-click the No 0 in the list.



### 5. <Graph Setting> tab - Set parameters.



“Line Type/Color/Mark” ----  
Select what you want.

Set the following:

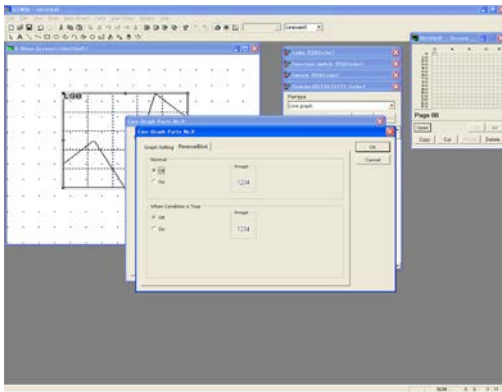
- “Reference Device” ---- “DT200”
- “Data Format” ---- “[DEC1W]”
- “Max./Min.”
- “Max.” ---- “Fixed”, “100”
- “Min.” ---- “Fixed”, “0”

\*GT reads the PLC data from the bit specified in “Reference Device” of <Element Setup> tab for the “Number of Plots” set in <Basic Setup> tab.

If “Data Format” in <Element Setup> tab is set to DEC[1W], the PLC data for (1 x “Number of Plots”) is read. If DEC[2W] is set, the one for (2 x “Number of Plots”) is read.

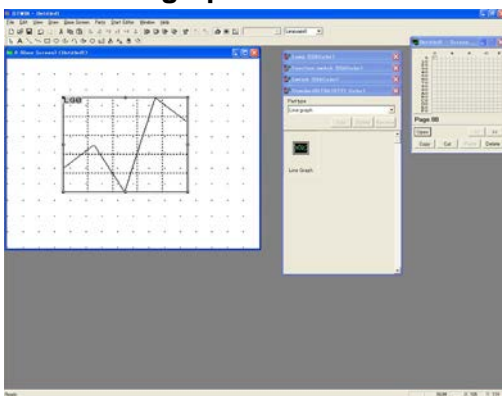


## 6. <Reverse/Blink> tab – Keep the default settings.

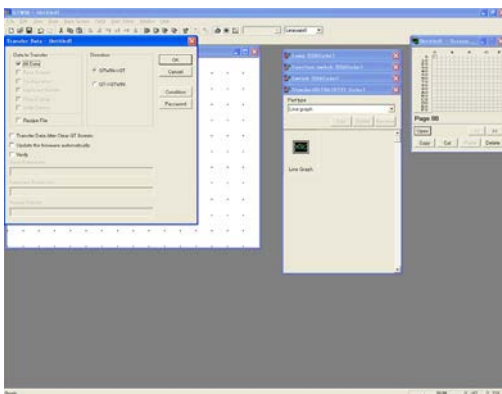


Click **OK** to close the dialog box.

## 7. Check the graph on the “Base Screen” window.



## 8. Transfer the screen data created to GT.



Click [File]-[Transfer], so that the “Transfer Data” window is displayed.  
Choose the following settings and click **OK**.

“Data to Transfer” ---- “All Data”  
“Direction” ---- “GTWIN → GT”

## 9. Check the performance..

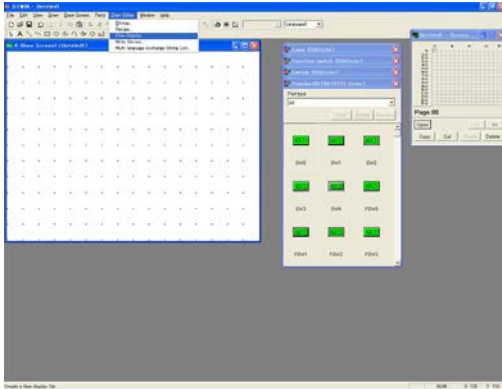
Input any value for DT200 to DT279 and check performance.  
When R200 (bit 0 of WR20) is turned ON, the graph will be updated.  
When R200 goes OFF, updating will be stopped.

## 5.7 Flow Display

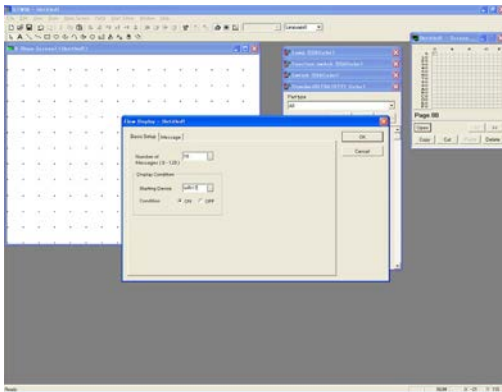
A flow display means that the message will flow at the bottom of the display panel screen. This is possible on any screen if the specified condition is met.

### 5.7.1 Creating a Flow Display File

#### 1. Select [Start Editor] – [Flow Display] from the main menu.



#### 2. Specify “Number of Message” and “Display Condition”.



The “Flow Display” dialog box - <Basic Setup> tab is displayed. Choose the following settings here;

“Number of Message” ---- “16”

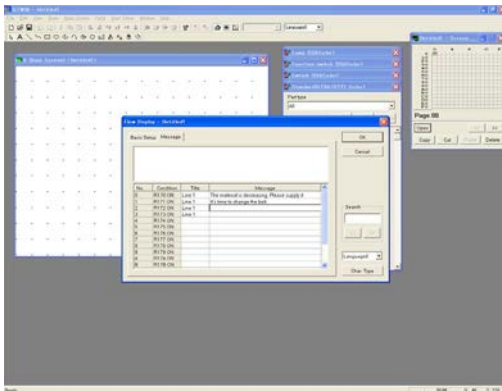
“Display Condition”

“Starting Device” ---- “WR17”

“Condition” ---- “ON”

\* Up to 128 messages can be registered.  
Click “Char. Type” at bottom right to specify the style, colors of letters or font types.

#### 3. Select <Message> tab and enter messages you want to display.



Up to 128 characters can be entered for one message.

Set a title as you like.

<Example>

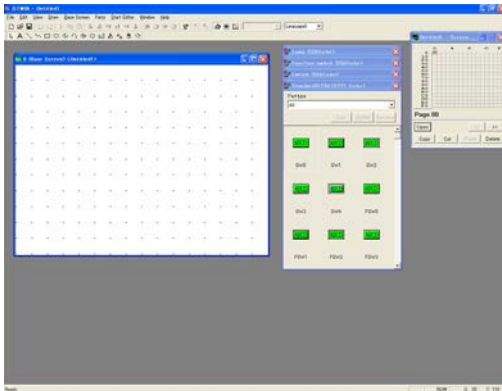
“Title” ---- “Line 1”

“Message” ----

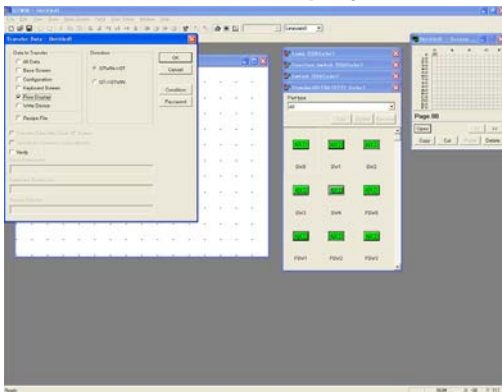
No. 0 “The material is decreasing. Please supply it.”

No. 1 “It’s time to change the belt”

4. Click **OK** to go back to the “Base Screen” window.



5. Transfer the Flow display file created to GT.



Click [File]-[Transfer] so that the “Transfer Data” window is displayed. Choose the following settings and click **OK**.

“Data to Transfer” ---- “Flow Display”  
 “Direction” ---- “GTWIN → GT”

6. When the condition set is met in GT, the flowing message will be displayed.



**Note:**

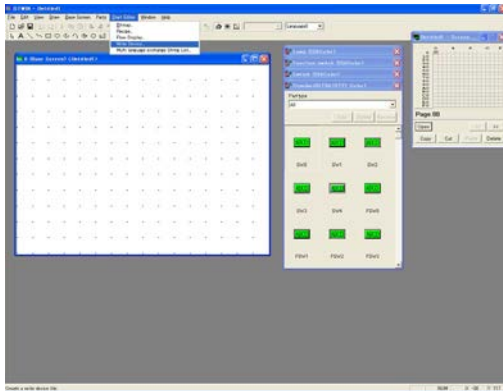
- When multiple conditions are met at the same time, only the message with the smaller No. will be displayed.
- The size of the flow display depends on the “Character Size” set in the “Character Attributes” dialog box that pops up by clicking **Character Type** in the <Message> tab.
- To delete the created flow display file which has been transferred once, set the number of message of the flow display file to 0. Then, select “All Data” when transferring the screen, and check “Transfer Data After Clear GT Screen” after clearing the screen. Even if all data have been transferred with the setting which the number of message is 0, the flow display file remains.

## 5.8 Write Device Function

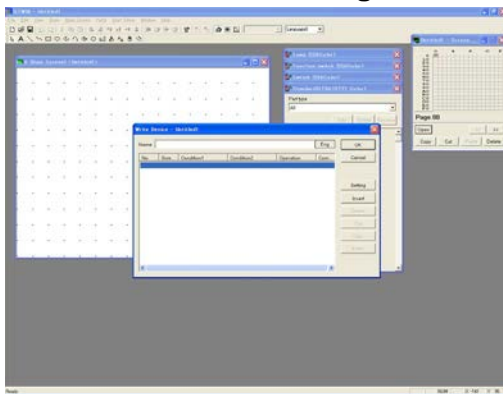
The write device function allows GT to write values into the PLC depending on the “Base Screen” No. or the status of PLC devices. This is useful for resetting a Writing contact for a Recipe or a Memory clear flag for a Line graph or Alarm history part.

### 5.8.1 Creating a Write Device File

#### 1. Select [Start Editor] – [Write Device] from the main menu.

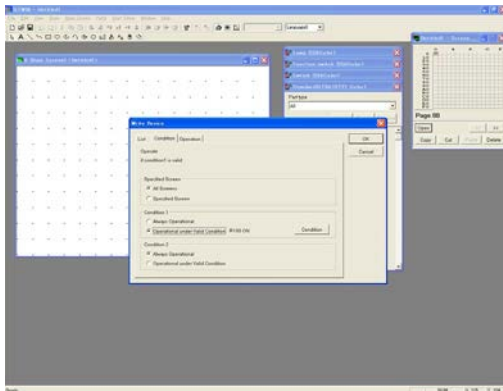


#### 2. The “Write Device” dialog box is displayed.



Click at the top of the list, then click **Setting**.

#### 3. The “Write Device” setting dialog box is displayed.

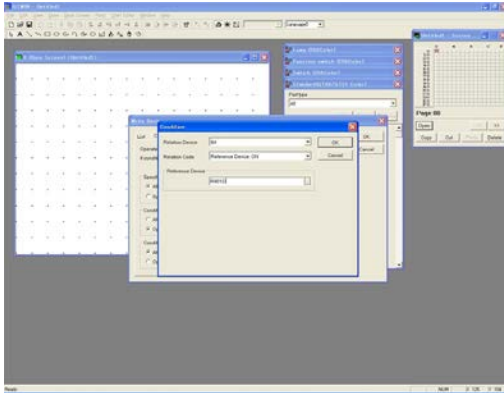


Choose the following settings in the <Condition> tab:

- “Specified Screen” ---- “All Screen”
- “Condition 1” ----  
“Operational under Valid Condition”
- “Condition 2” ----  
“Always Operational”

If “Operational under Valid Condition” is set for both of “Condition 1” and “Condition 2”, values will be written into the PLC only when both conditions are met.

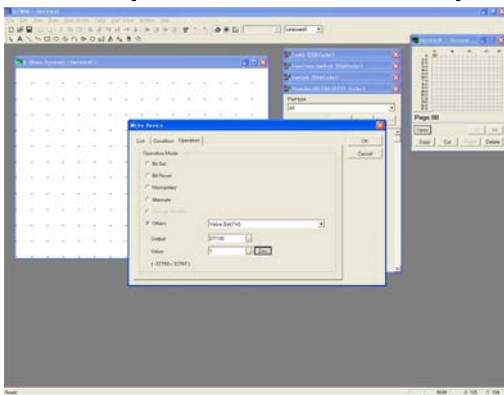
4. Select **“Operational under Valid Condition”** for **“Condition 1”** and click **Condition** so that the **“Condition”** dialog box is displayed.



Set the following:

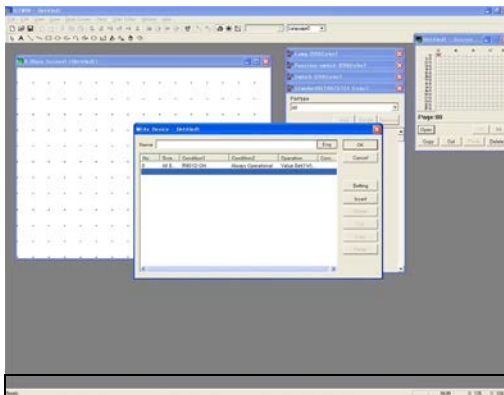
“Relation Device” ---- “Bit”  
 “Relation Code” ---- “Reference Device: ON”  
 “Reference Device” ---- “R901D”

5. Click **<Operation>** tab – Set the parameters.



“Operation Mode” ---- “Others”,  
 “Add (DEC/1W)”  
 “Output” ---- “DT100”  
 “Device to Add/Sub” ---- “DT100”  
 “Value” ---- “1”

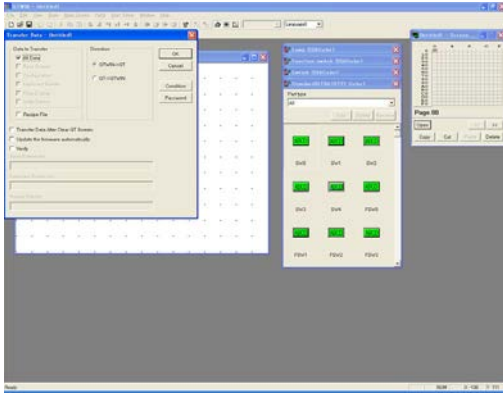
6. Click **OK** to return to **“Write Device”** dialog box.



When you want to set conditions or data multiple times, click the line below the one set and click **Setting**.

\* Up to 100 can be set.

7. Click **OK** to return to the “Base Screen” window. Transfer the Write device file created to GT.



Click [File]-[Transfer], so that “Transfer Data” window is displayed.  
Choose the following settings and click **OK**.

“Data to Transfer” ---- “All Data”

“Direction” ---- “GTWIN → GT”

\* R901D, set in “Condition 1”, repeats going ON and OFF every 2 seconds, so that 1 is added to the value for DT100 every 2 seconds.



**Note:**

If “All Screen” is frequently selected under “Specified Screen”, GT30 will always be busy reading out values from the PLC, resulting in a slower response. When a screen can be specified, we recommend selecting “Specified Screen”.

Write device operation is executed by derivative action at the timing when the specified conditions are met. When conditions are met and its status is maintained, writing is executed once.

## 5.9 Recipe Function

### Performance

This transfers the values set in advance to the PLC.

File No. and Block No. are specified to transfer the values to the PLC.

The Recipe file can be updated by transferring the values set in the PLC to GT.

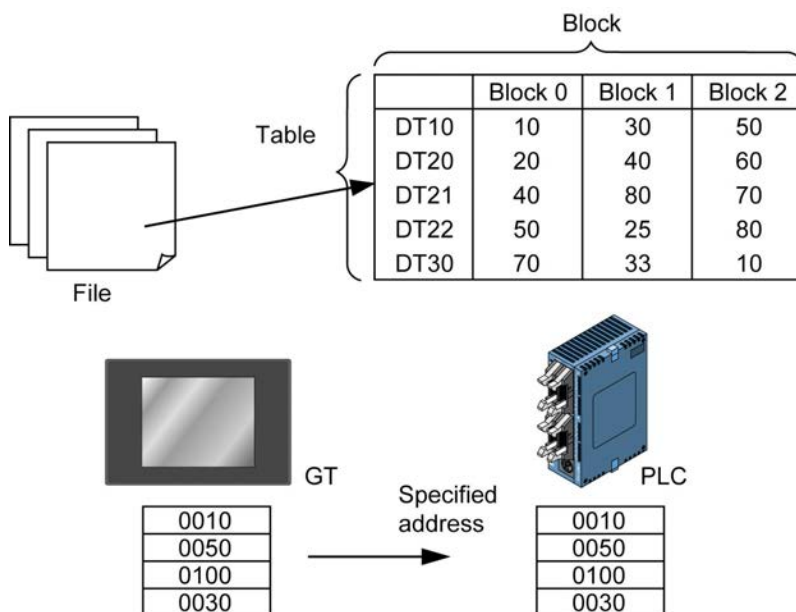
Up to 100 files can be created.

Up to 100 blocks can be created.

Up to 100 table entry devices can be created.

About 3,600 words for Recipe can be saved in GT30 in total. (This might be decreased due to the number of files registered or comment entries.) Select [View] - [Total Memory Usage] to confirm how much memory is available for Recipes.

### Configuration of File, Block and Table



#### Note:

- Do not use "through mode" during Recipe operation.
- When the power is turned off during the update of the Receipt data, the data is not secured.
- Reading (from the PLC to GT) or deleting the Receipt data is operable for approx. 100,000 times.

## 5.9.1 Controlling the Recipe File

The recipe function is controlled by specifying the “File No.” and “Block No.”, and by turning ON/OFF the specified bit for the operation.

	F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0
n	Error occurrence					Deleting complete	Reading complete	Writing complete						GT Recipe file deleting	Reading (GT←PLC)	Writing (GT→PLC)
n+1	File No.															
n+2	Block No.															
n+3	Error Code															

### Bit for Operations (Controlled by the PLC.)

Writing (GT→PLC): Writes the data, saved in GT, into PLC. The data is specified by the “File No.” and “Block No.” of the Control device.

Reading (GT←PLC): Reads out the data in the PLC and registers it in GT. Once registered it is still stored even if GT power is turned OFF. Specify “File No.” and “Block No.” for reading out.

Deleting Recipe file of GT: Deletes the specified block of the recipe file saved in GT.

### Bit for the Operation Complete (Area where GT Writes into)

Writing complete: The bit goes ON when writing is completed.

Reading complete: The bit goes ON when reading is completed.

Deleting complete: The bit goes ON when deleting is completed.

Error occurrence: The bit goes ON when any error has occurred. The contents of the error are confirmed by its error code. When the error is cleared, the bit will go OFF.

### Timing of the Writing Flag and Writing Complete Flag

The Writing complete flag goes ON when writing the block data of the specified recipe file is completed.

Writing, Reading and Deleting cannot be practiced at the same time. When they are ON at the same time, the order of the operation priority is Writing, Reading and Deleting.

When the flags for Writing complete, Reading complete and Deleting complete are all OFF, Writing, Reading and Deleting are possible.

The Error occurrence flag (error code) will be cleared when Writing, Reading or Deleting is properly done. (The Error occurrence flag will go OFF and an error code shows 00(H).)

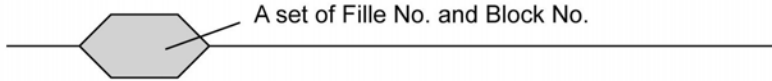


## Other Information

File No.: Specifies the file No.  
 Block No.: Specifies the block No.  
 Error code: Is displayed when any error has occurred in the communication between GT and the PLC. When the error is cleared, its display changes to 00.  
 00 (hex): normal  
 01 (hex): The specified file No. not Found.  
 02 (hex): The specified block No. not Found.  
 03 (hex): GT memory is already used up. Writing is impossible.

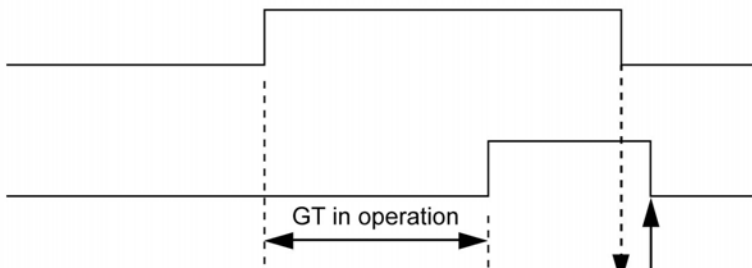
**<Example>** When the "Control Device" in the "GT Configuration" is set to WR20.

File No. WR21  
 Block No. WR22  
 (PLC writing)



Bit for operation  
 R202  
 (PLC writing)

Bit for operation  
 complete  
 R20A  
 (GT writing)



Operation starts.

Operation completes.

When the bit for the applicable operation goes OFF, T turns OFF the bit for operation complete.

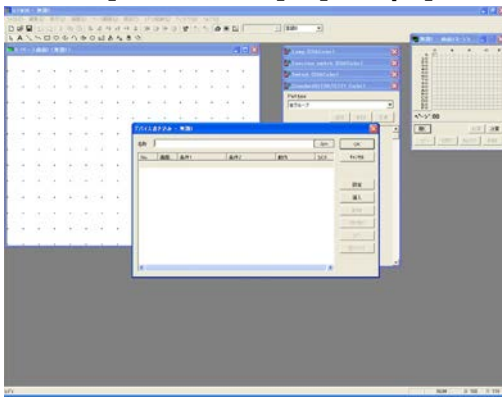
When GT has confirmed that the bit for the applicable operation had gone ON, GT sees the File No. and Block No. and starts the specified operation.

GT turns ON the bit when the operation is completed.

## 5.9.2 How to Create a Recipe File

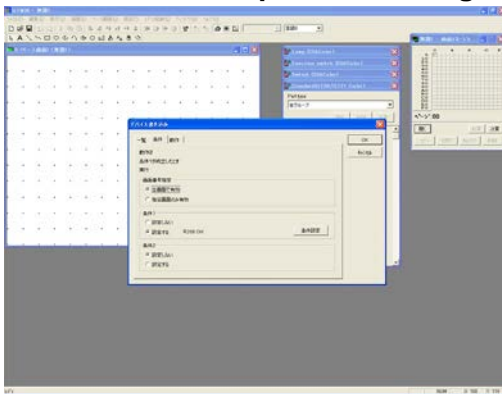
The recipe function allows GT to set the values in multiple devices in a block.

### 1. Select [Start Editor] – [Recipe] from the main menu.



The "Recipe" window is displayed.

### 2. Click Browse to open "GT Configuration" window.

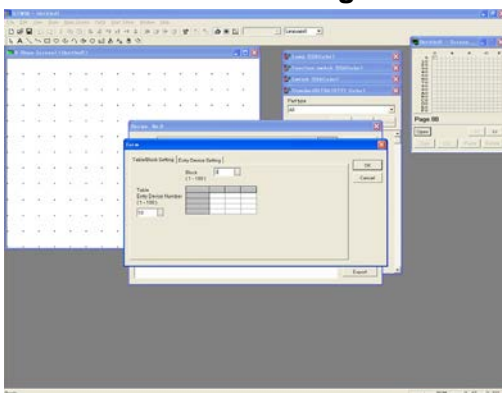


The "GT Configuration" - <Recipe> tab is displayed.  
Choose the following and click **OK**.

"Recipe" ---- "On"  
"Control Device" ---- "WR20"

\* Up to 100 Recipe files (No. 00 to 63) can be created.

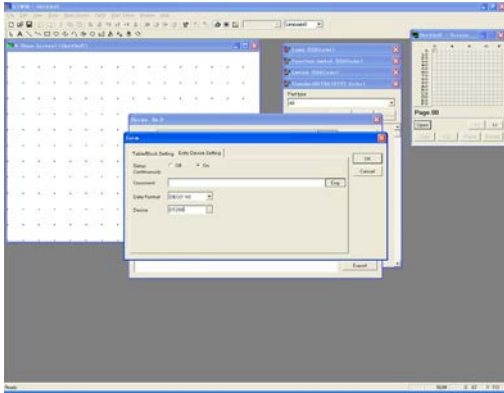
### 3. Set <Table/Block Setting> tab.



Double-click File No. 0 in "Recipe" window, click Form and choose the followings:

"Table Entry Device" ---- "10"  
"Block" ---- "3"

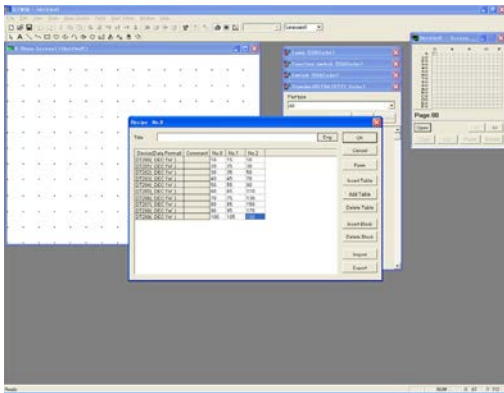
4. Click <Entry Device Setting> tab - Set the parameters.



Set the following and click **OK**.

“Setup Continuously” ---- “On”  
 “Data Format” ---- “DEC(1W)”  
 “Device” ---- “DT200”

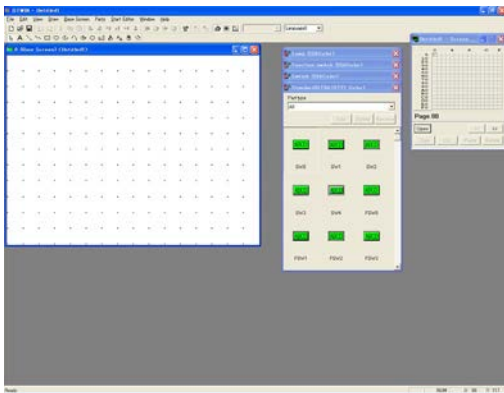
5. Enter the value per block in the table.



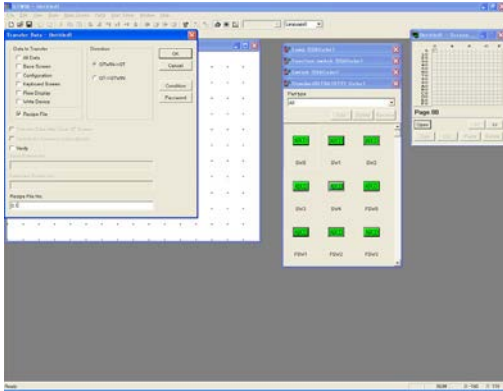
Enter the following and click **OK**.

	No.0	No.1	No.2
DT200	10	15	10
DT201	20	25	30
DT202	30	35	50
DT203	40	45	70
DT204	50	55	90
DT205	60	65	110
DT206	70	75	130
DT207	80	85	150
DT208	90	95	170
DT209	100	105	190

6. Click **OK** and **Close** on the next window to go back to the “Base Screen” window.



## 7. Transfer the Recipe file created to GT.



Click [File]-[Transfer], so that “Transfer Data” window is displayed.  
Choose the following settings.

“Data to Transfer” ---- “Recipe File”

“Direction” ---- “GTWIN → GT”

Input the recipe file No. to be transferred in “Recipe File No.”, and click **OK**.

<Example>

“Recipe File No.” --- 0, 1

Note) Input numbers. The file numbers should be separated by a comma.

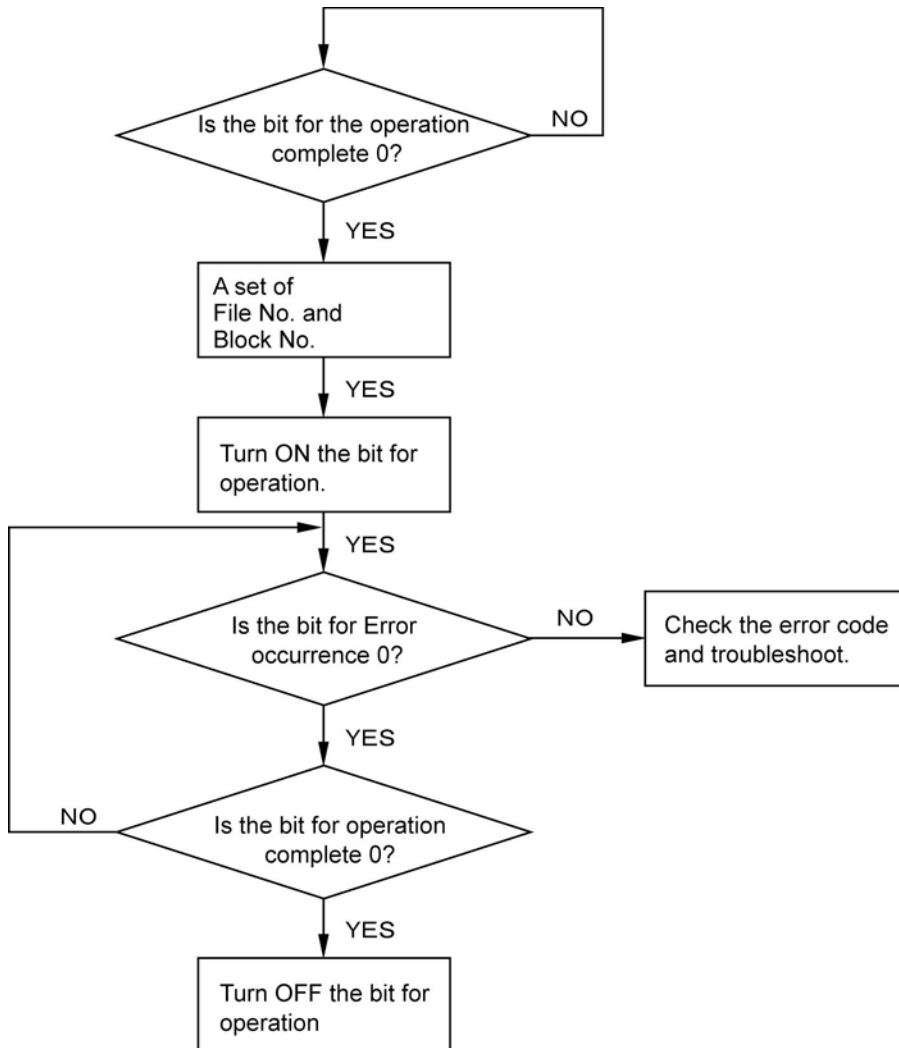
## 8. Check performance on the display panel.

Since “Control Device” is set to WR20 and the Block No. 0 to No. 2 are set in the File No. 0, 0 is written into WR21 and 0 is written into WR22. When the bit of R200 is turned ON, the block No. 0 set in step 5 above is shown for DT200 to DT209.

Change the Block No. or the bit for operations to check performance.

## How to Set Control Devices for Recipe Function

Follow the procedures below to use Recipe function properly.

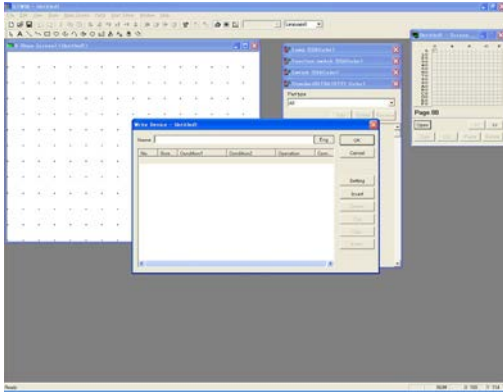


## 5.9.3 Handshaking by Write Device Function

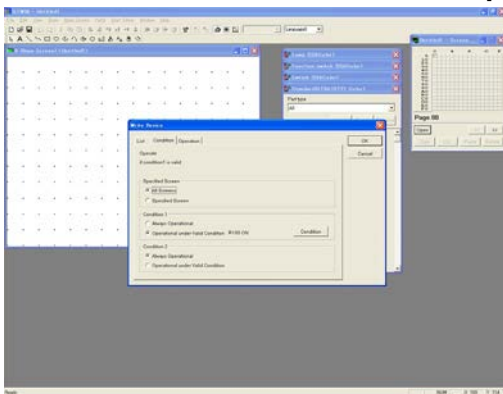
The Write Device function can practice handshaking in the previous page without programming it in the PLC.

<Example> Writing (GT →PLC) using Write Device function  
The Control Device is to be WR20.

### 1. Select [Start Editor] – [Write Device] from the main menu.



### 2. Click <Condition> tab and set the parameters.



Choose the following settings.

“Specified Screen” ---- “All Screen”

“Condition 1” ---- “Operational under Valid Condition”

Click Condition.

“Relation Device” ---- Select “Bit”.

“Relation Code” ---- “ON”

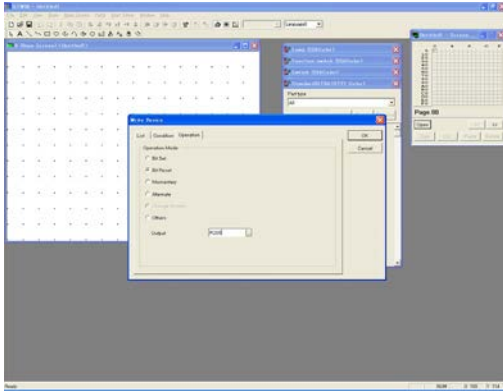
“Reference Device” ---- “R208”

“Condition 2” ---- “Always Operational”

\* R208 is a Writing complete bit.

\* If you can specify the screen No., select “Specified Screen” and specify the screen No.

### 3. Click <Operation> tab and set the parameters.



Choose the following settings.  
“Operation Mode” ---- “Bit Reset”  
“Output” ---- R200

\* R200 is the bit for Writing operation.

The bit for the operation, R200, once turned ON in step 3 above, will go OFF automatically when the bit for operation complete, R208, goes ON.



**Note:**

- Up to 100 write device files can be set.
- GT is always reading out the registered write device files for PLC, so as the number of the registered increases, the response of GT for the operations, such as switching screens or updating the indication of values, will be slower.





# Chapter 6

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## **Practical Use (2) (For GT11/GT21/GT30)**

# 6.1 Alarm List Parts

## 6.1.1 Alarm List Function

Displays only the messages that the conditions to be displayed are met in the messages corresponding to PLC devices.

It is used to display the lists of the errors occurred. Two display modes are available, that are “History” and “Active Alarm”.

### Parts types

There are two types of alarm list parts.

- **Alarm History: Displaying histories**

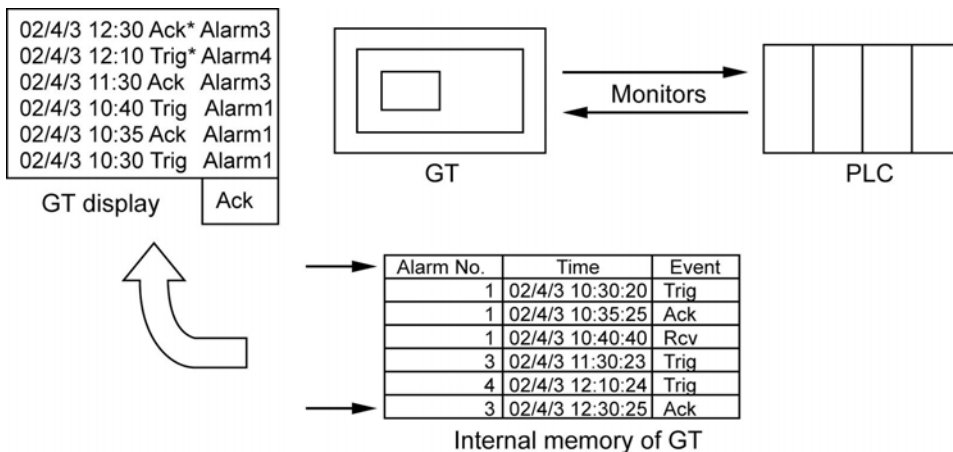
There are two operation modes that are “Time Order” (displaying the information list on “Triggered”, “Recovered” and “Acknowledged”) and “Frequency Order” (displaying the list showing the number of alarms occurred).

- **Alarm List: Displaying active alarm lists**

It shows the list of alarms that are occurring.

### Performance

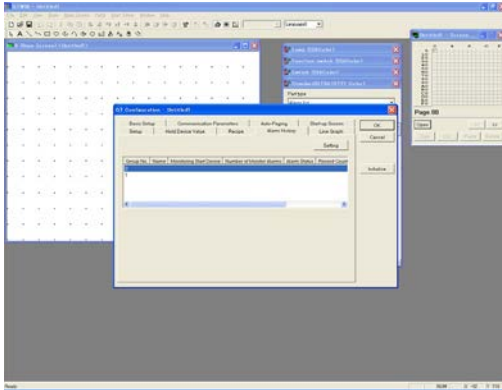
- (1) GT can always monitor data in the internal memory of the PLC. (Set in <Alarm History> tab of the “GT Configuration” window.)
- (2) When an error occurs or the error is recovered, its alarm No., occurrence time and recovery time is stored in the internal memory of GT. (Set in <Alarm History> tab of the “GT Configuration” window.)
- (3) Existing alarms can be displayed in an Alarm list.
- (4) Alarm history parts, which include Function switch parts, record alarm acknowledgement in the internal memory of GT. (Touch the alarm displayed on the display panel and press the Ack button to acknowledge it, so that its acknowledgement will be recorded.) (The operation mode of Ack button is set in its “Function Switch” dialog box.)



\* Ack (means Acknowledged), Trig (Triggered) and Rcv (Recovered) are the default display. They can be changed as you like.

## 6.1.2 Setting to Monitor PLC Device Status at Specified Interval (Displaying Alarm History)

### 1. Set parameters for <Alarm History> tab in the “GT Configuration” dialog box.

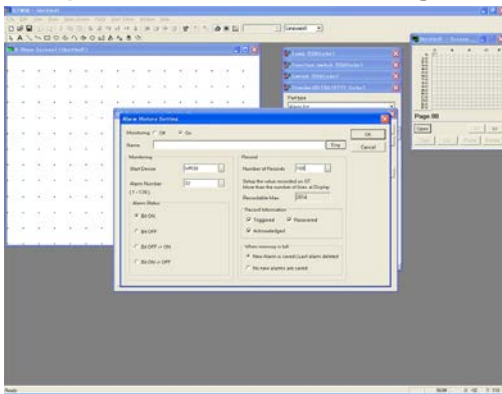


Select [File] - [Configuration] - [GT Configuration] so that the “GT Configuration” dialog box is displayed.

Click <Alarm History> tab.

Select the Group No. 0 and click **Setting**.

### 2. Set parameters for monitoring.



“Alarm History Setting” dialog is displayed. Select “On” for “Monitoring”, choose the following settings and click **OK**.

“Name” ---- Insert your optional comment.

**“Monitoring”**

“Start Device” ---- “WR30”

“Alarm Number”(\*1) ---- “32”

“Alarm Status”(\*2) ---- “Bit ON”

**“Record”**

“Number of Records”(\*3) ---- “100”

**“Record Information”**(\*4) ----

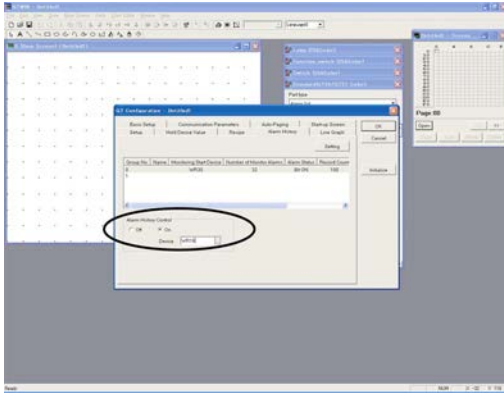
Check “Triggered”, “Recovered” and “Acknowledged”.

**“When memory is full”** ----

Check “New Alarm is saved/Last alarm deleted”.

- \*1: **“Monitoring”** - “Alarm Number” can be set up to 128. 1 bit will be assigned to 1 alarm. If “Alarm Number” is set to 128, 8 words (8 x 16 bits = 128) will be monitored. If “Start Device” is set to WR30 and “Alarm Number” to 32, data from WR30 for 32 bits will be monitored, i.e. WR30 and WR31.
- \*2: “Bit ON” displays an alarm when the bit is ON. “Bit OFF” displays an alarm when the bit is OFF.
- \*3: “Number of Records” sets the number of alarms to be recorded in GT. This should be bigger than “Alarm Number”. Even if GT power is turned OFF, the alarms recorded so far will be backed-up by a battery. However, if the battery becomes dead, they will be lost.
- \*4: “Triggered” and “Recovered” information is displayed when its specific device bit is ON/OFF. “Acknowledged” information is displayed when **Ack** button is pressed on the display panel.

### 3. Set “Alarm History Control”.



Select “On” for “Alarm History Control” in the “GT Configuration” - <Alarm History> tab.

Set “WR16” for “Device”.

When completed, click **OK**.

### Function of Control Devices (2 words)

Address	F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0	
n		Reserved (Do not use.)					Memory overflow of Group 1	Memory overflow of Group 0			Reserved (Do not use.)					Stop sampling for Group 1	Stop sampling for Group 0
n+1		Reserved (Do not use.)					Completed clearing memory of Group 1	Completed clearing memory of Group 0			Reserved (Do not use.)					Clears the memory of Group 1	Clears the memory of Group 0

#### Stops monitoring a Group:

When the specific device bit goes ON in the PLC, GT30 stops monitoring the PLC.

#### Memory overflow of a Group:

When the number of alarms monitored exceeds “Number of Records” set in “GT Configuration” dialog box - <Alarm History> tab, the bit goes ON. Once it is ON, the ON status will be maintained until the memory is completely cleared.

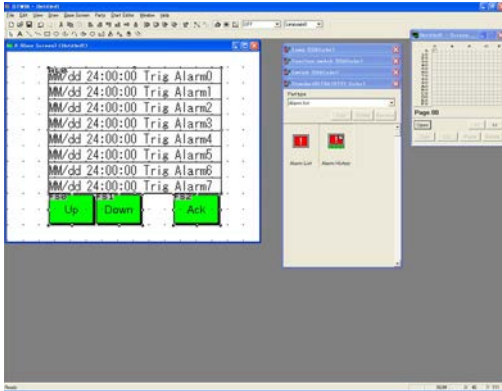
#### Clears the memory of a Group:

When the specific device bit goes ON in the PLC, the recorded contents will be cleared. Confirm that the Memory clear complete flag is OFF before turning OFF the bit.

#### Completed clearing the memory of a Group:

When GT30 has completed clearing the memory, it makes the applicable PLC bit go ON. That bit will go OFF after GT30 confirms the Memory clear flag has gone OFF.

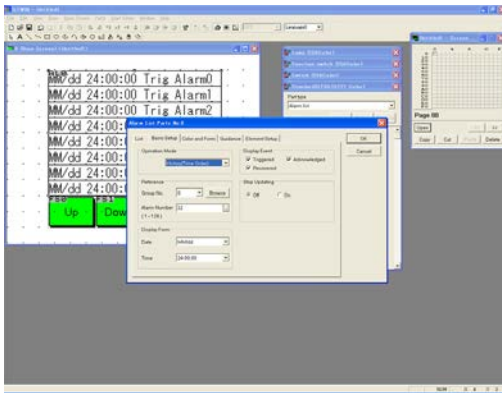
**4. Open the No. 0 “Base Screen” window and place an Alarm history part.**



Double-click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From the “Standard” Parts Library, drag “Alarm History” and drop it on the “Base Screen” window.

**5. Double-click the Alarm history part and change its basic settings.**



Select only “AL0”. Double-click it so that “Alarm List Parts” dialog box - <Basic Setup> tab is displayed.

Choose the settings below:

- “Operation Mode” ----  
“History(Time Order)”
- “Reference”  
“Group No.”(\*1) ---- “0”  
“Alarm Number”(\*2) ---- “32”
- “Display Form”  
“Date” ---- “MM/dd”  
“Time” ---- “24:00:00”
- “Display Event” ----  
Check “Triggered”, “Recovered”  
and “Acknowledged”.
- “Stop Updating”(\*3) ---- “Off”

\*1: “Reference” - “Group No.”

Select the desired No. set in “GT Configuration” dialog box.

\*2: “Reference” - “Alarm Number”

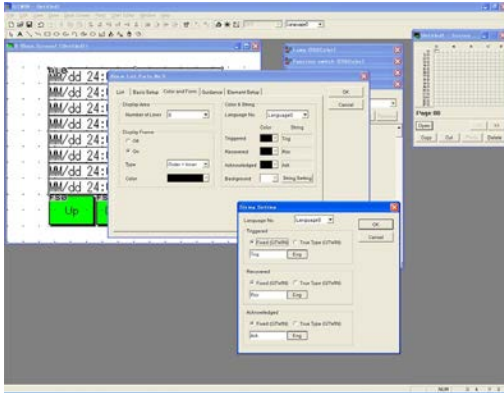
Sets the number of alarm messages to be registered. “Monitoring” - “Alarm Number” in “GT Configuration” dialog box should be greater than or equal to “Reference” - “Alarm Number”.

\*3: “Stop Updating”

“On” stops updating a display when the specified bit of the PLC device goes ON.

However, sampling keeps going.

## 6. Click <Color and Form> tab - Set parameters.



Choose the following settings.

### “Display Area”

“Number of Lines” ---- “8”

### “Display Frame” ---- “On”

“Frame Type” ---- “Outer + Inner”

“Frame Color” ---- Black

### “Color & String”

“Triggered”, “Acknowledged”, “Recovered”  
---- Black

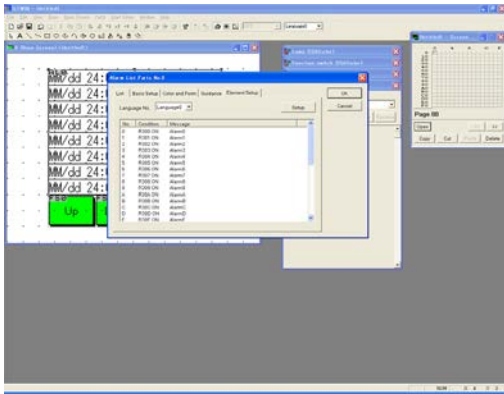
Click **String Setting** to set the followings.

“Triggered” ---- “Fixed (GTWIN)”, “Trig”

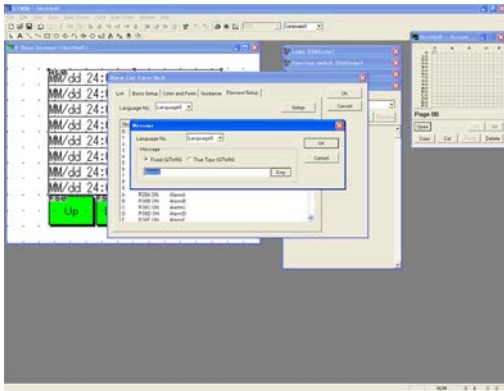
“Recovered” ---- “Fixed (GTWIN)”, “Rcv”

“Acknowledged” ---- “Fixed (GTWIN)”, “Ack”

## 7. Click <Element Setup> tab.



## 8. Insert messages for alarms.



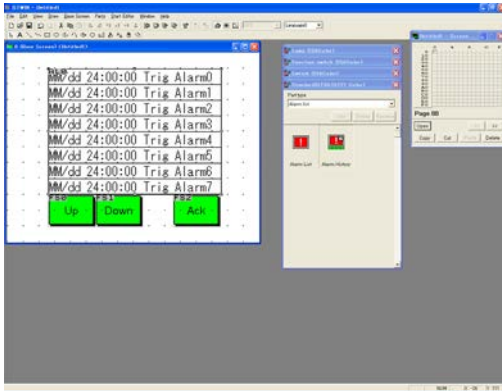
Select any No. and click **Setup** to input messages.

Double-click it so that the “Message” dialog box is displayed.

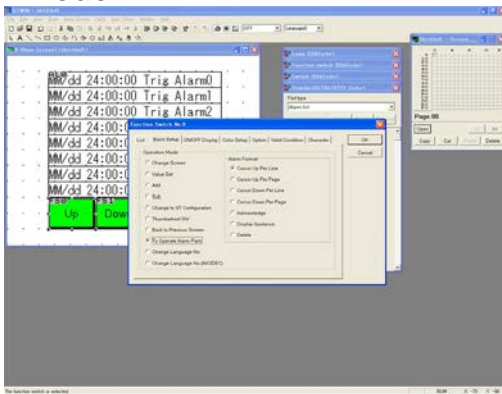
Insert any comments you want to display.

\* Alarm No. 0 is for the bit 0 of the “Start Device”. When completed for all messages, click **OK**.

**9. Set parameters for Function switches to be used for confirming an alarm history.**



**10. Double-click the Function switch, “FS0”, and set its operation mode.**

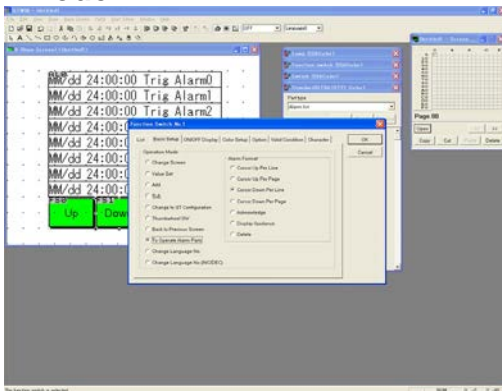


The “Function Switch” dialog box - <Basic Setup> tab is displayed. Choose the following settings:

- “Operation Mode” ----
- “To Operate Alarm Parts”
- “Alarm Format” ---- “Cursor Up Per line”

\* The above settings enable you to scroll the alarm display upwards.

**11. Double-click the Function Switch, “FS1”, and set its operation mode.**

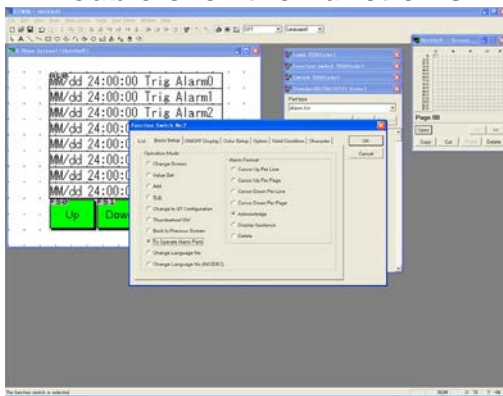


The “Function Switch” dialog box - <Basic Setup> tab is displayed. Choose the following settings:

- “Operation Mode” ----
- “To Operate Alarm Parts”
- “Alarm Format” ---- “Cursor Down Per line”

\* The above settings enable you to scroll the alarm display downwards.

**12. Double-click the Function switch “FS2” and set its operation mode.**



The “Function Switch” dialog box - <Basic Setup> tab is displayed. Choose the following settings:

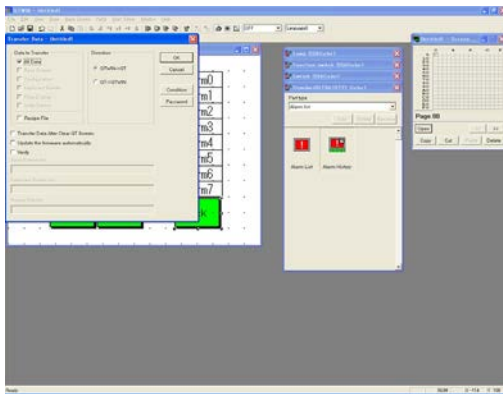
- “Operation Mode” ----  
 “To Operate Alarm Parts”  
 “Alarm Format” ---- “Acknowledge”

\* The above settings makes a switch to acknowledge alarms.

Touch the alarm on the display panel and press **Ack** button so that the selected alarm will be stored in GT30.

This is useful for recording a history of alarm acknowledgement.

**13. Transfer the screen data created to GT.**



Click [File]-[Transfer] so that the “Transfer Data” window is displayed. Choose the following settings and click **OK**.

- “Data to Transfer” ---- “All Data”  
 “Direction” ---- “GTWIN → GT”

**14. Check display on GT.**

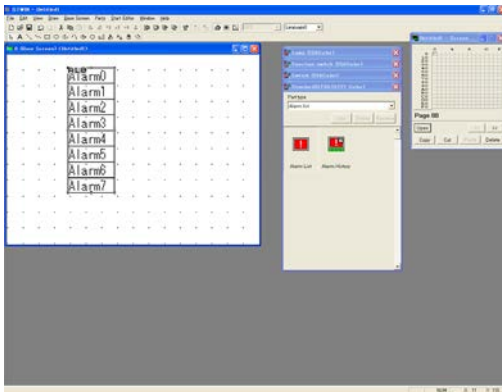
WR30 and WR31 have been monitored. So, when R300 goes ON, the No. 0 message will be displayed on an alarm. When R30A goes ON, the No. A message is displayed. When R313 goes ON, the No. 13 message is displayed.

The Control device is set to WR16 in step 3 above, so when R160 goes ON, recording will be stopped. When you want to clear the contents recorded so far, turn ON R170.



## 6.1.3 Displaying in a List the Existing Alarms (Active Alarm List)

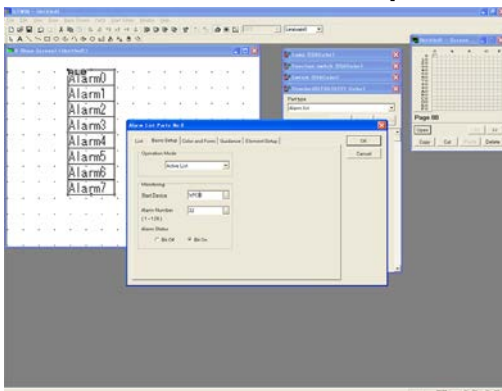
### 1. Open the No. 0 “Base Screen” window and place an Alarm list part.



Double-click the No. 0 on the “Screen Manager” window so that its “Base Screen” window is displayed.

From the “Standard” Parts Library, drag “Alarm List” and drop it on the “Base Screen” window.

### 2. Double-click the Alarm list part and change its basic settings.



The “Alarm List Parts” dialog box - <Basic Setup> tab is displayed. Choose the settings below:

“Operation Mode” ---- “Active List”

“Monitoring”

“Start Device” ---- “WR30”

“Alarm Number”(\*1) ---- “32”

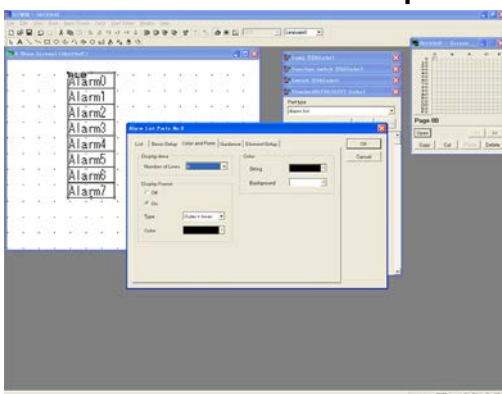
“Alarm Status”(\*2) ---- “Bit On”

\*1 1 bit is assigned to 1 alarm. When the “Alarm Number” is set to 32, data for 2 words will be monitored.

\*2 “Alarm Status” - “Bit On” displays an alarm when the specified bit goes ON.

\*3 Settings in “GT Configuration” are not required.

### 3. <Color and Form> tab – Set parameters.



Keep the default.

“Display Area”

“Number of Lines” ---- “8”

“Display Frame” ---- “On”

“Frame Type” ---- “Outer + Inner”

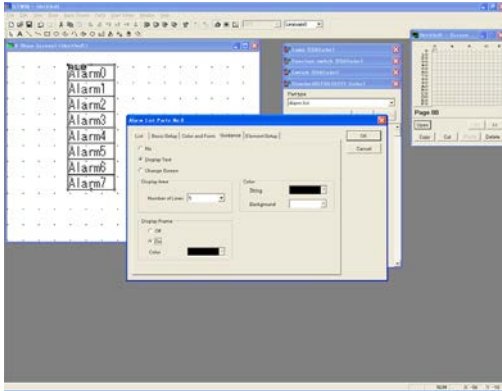
“Frame Color” ---- Black

“Color”

“String” ---- Black

“Background” ---- White

**4. <Guidance> tab (\*1) - Select “Display Text” and set parameters.**



**“Display Area”**

“Number of Lines”(\*2) ---- “5”

**“Display Frame”** ---- “On”

“Frame Color” ---- Black

**“Color”**

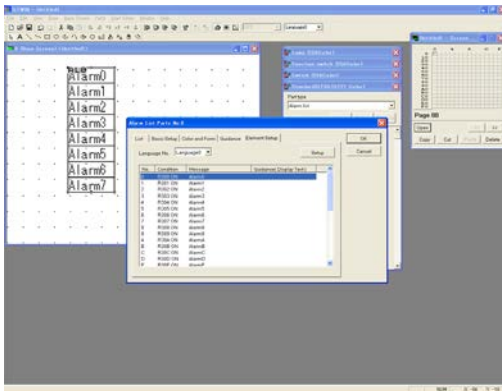
“String” ---- Black

“Background” ---- White

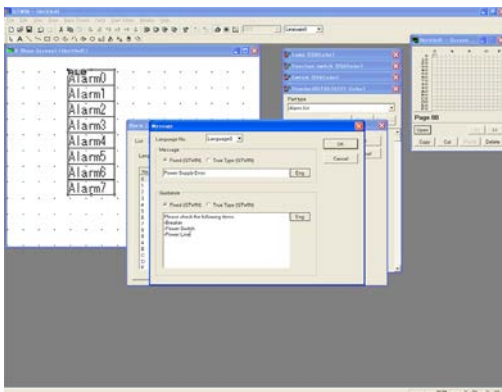
\*1 <Guidance> is for displaying a detailed explanation for the alarms displayed.

\*2 “**Display Area**” - “Number of Lines” is the number of lines for displaying the detailed explanation.

**5. Click <Element Setup> tab.**



Double-click No. 0 so that the “Message” dialog box is displayed.



Enter a message to be displayed as an alarm and a guidance for it.

When completed, click **OK**.

\* Message No. 0 is for the bit 0 of “Monitoring” - “Start Device”.

**Message example**

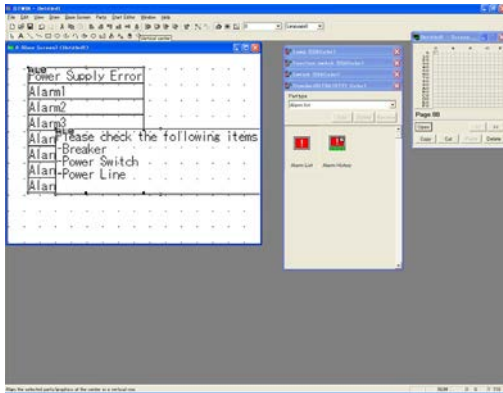
- Power Supply Error

**Guidance example**

Please check the following items.

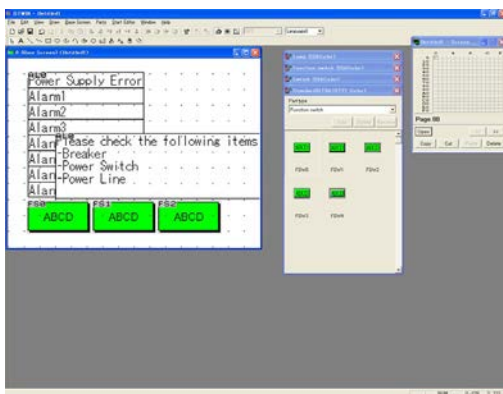
- Breaker
- Power Switch
- Power Line

## 6. Place a guidance box.



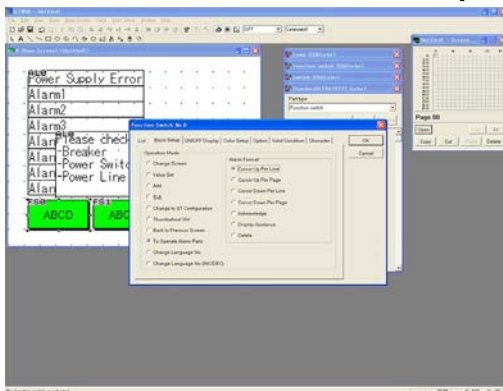
Place a guidance box in a position you want.

## 7. On the “Base Screen” window paste Function switch parts for scrolling the list.



Drag 3 “FSW0” from the “Standard” Parts Library and drop them on the “Base Screen” window.

## 8. Double-click “FS0” and set its operation mode.



The “Function Switch” dialog box - <Basic Setup> tab is displayed. Choose the following settings:

“Operation Mode” ----

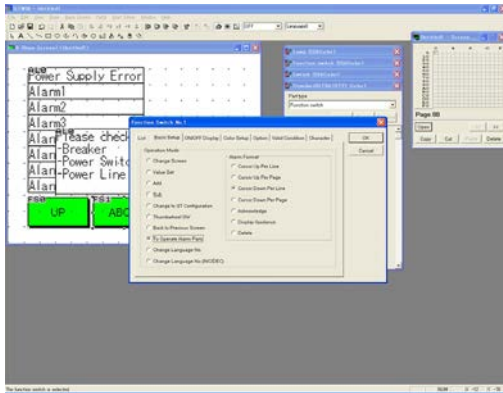
“To Operate Alarm Parts”

“Alarm Format” ---- “Cursor Up Per line”

\* The above settings enable you to scroll the alarm list upwards.

\* Set the colors and characters as you like.

## 9. Double-click “FS1” and set its operation mode.

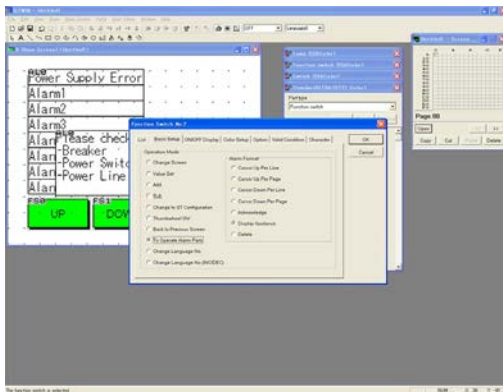


The “Function Switch” dialog box - <Basic Setup> tab is displayed. Choose the following settings:

“Operation Mode” ----  
 “To Operate Alarm Parts”  
 “Alarm Format” ---- “Cursor Down Per line”

- \* The above settings enable you to scroll the alarm list downwards.
- \* Set the colors and characters as you like.

## 10. Double-click “FS2” and set its operation mode.

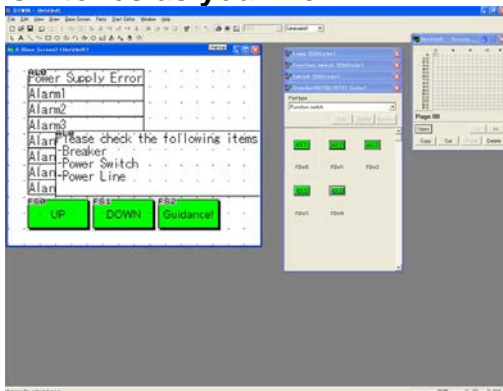


The “Function Switch” dialog box - <Basic Setup> tab is displayed. Choose the following settings:

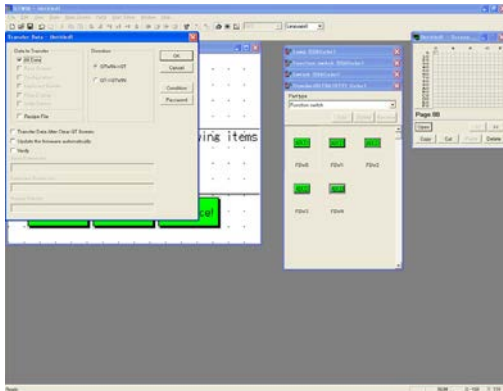
“Operation Mode”  
 “To Operate Alarm Parts”  
 “Alarm Format” ---- “Display Guidance”

- \* The above settings can call the contents of guidance set in steps 4 and 5 by selecting an alarm and pressing this switch.
- \* Set the colors and characters as you like.

## 11. Check display on the “Base Screen” window. Adjust the size of switches as you like.



## 12. Transfer the screen data created to the Programmable Operator Terminal.



Click [File]-[Transfer], so that the “Transfer Data” window is displayed.  
Choose the following settings and click **OK**.

“Data to Transfer” ---- “All Data”

“Direction” ---- “GTWIN → GT”

## 13. Check display on the Programmable Operator Terminal.

When R300 goes ON, the No. 0 message will be displayed.

Touch the alarm displayed on the display panel and press the Guidance! button so that its guidance is displayed. Touch guidance to make it disappear. Check the other messages, too.



# Chapter 7

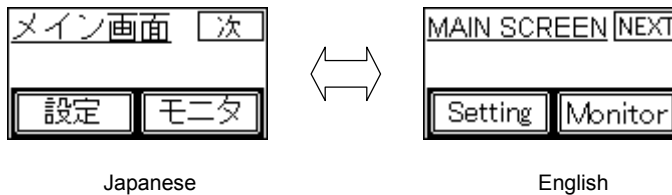
---

## **Practical Use (3) (For GT01/GT11/GT21)**

# 7.1 Multi Language Exchange

## 7.1.1 Function

Using the function for changing display language enables to change the language to be displayed as necessary among the screens previously created in multiple languages in GTWIN. For example, if using GTWIN in the English-speaking region besides Japan, the displayed language can be changed by registering Japanese and English screens in GTWIN in advance. A maximum of 16 languages can be registered.

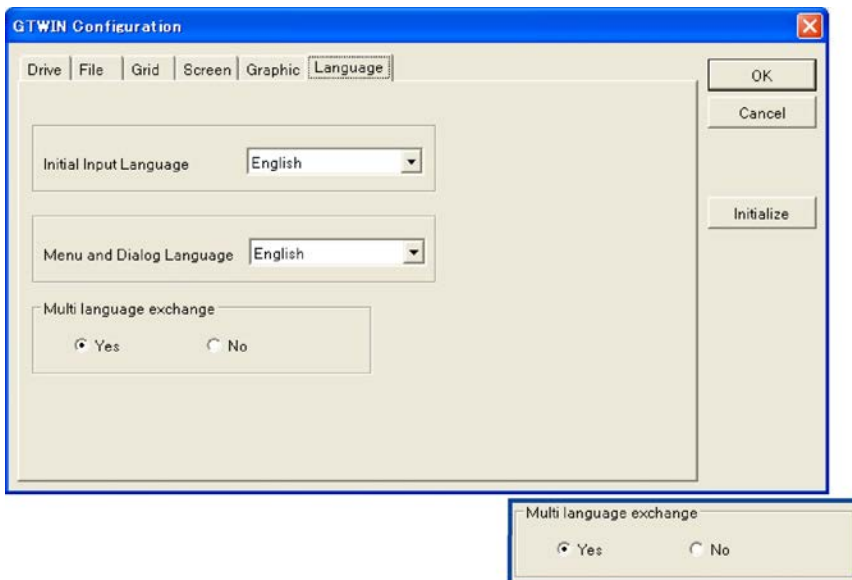


Note) When using this function, the number of registered displays are fewer than the case without using this function as memory is used for the number of languages x the number of screens.

## 7.1.2 Before You Use

The following setting must be specified in GTWIN to use the function for changing displayed language.

1. Boot up GTWIN. Select GT01, GT11 or GT21.
2. Select [File] – [Configuration] – [GTWIN Configuration], and click <Language> tab.
  - Select “Yes” in “Multi language exchange”.

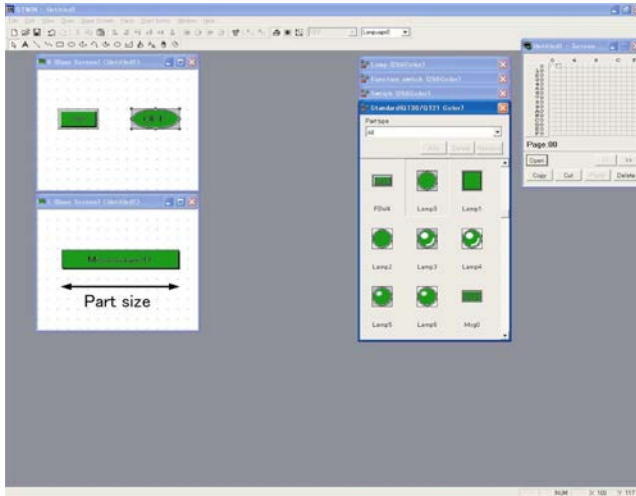


“How to create screens (Two methods)” and “How to change languages (two methods)” are described in the next pages.



## 7.1.3 How to Create Screens by Using String List

### 1. Create a screen in a language to be used mainly.



#### Key Point:

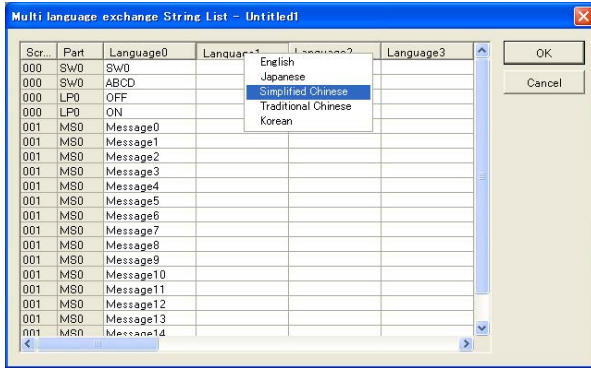
- When inputting characters with the string list, the string to be input must be smaller than the part size. The part size cannot be adjusted during the editing with the string list. Therefore, it is recommended to create screens after increasing the part size as large as possible, and then input multiple languages with the string list.

### 2. Input other languages after creating bilingual screens.

Scr.	Part	Language0	Language1	Language2	Language3
000	SW0	SW0			
000	SW0	ABCD			
000	LP0	OFF			
000	LP0	ON			
001	MS0	Message0			
001	MS0	Message1			
001	MS0	Message2			
001	MS0	Message3			
001	MS0	Message4			
001	MS0	Message5			
001	MS0	Message6			
001	MS0	Message7			
001	MS0	Message8			
001	MS0	Message9			
001	MS0	Message10			
001	MS0	Message11			
001	MS0	Message12			
001	MS0	Message13			
001	MS0	Message14			

Select [Start Editor] – [Multi language exchange String List] from the toolbar after completing the screen creation in a main language. The list indicating the string of the language 0 filled will be output.  
 \* The list indicates “Screen No.”, “Part” and “Language 0 to 15” from the left, in that order.

### 3. Input simplified Chinese in the string of the language 1.



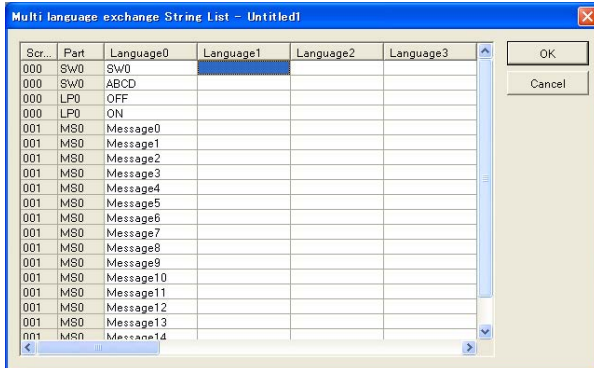
Click “Language 1”, and select “Simplified Chinese”.



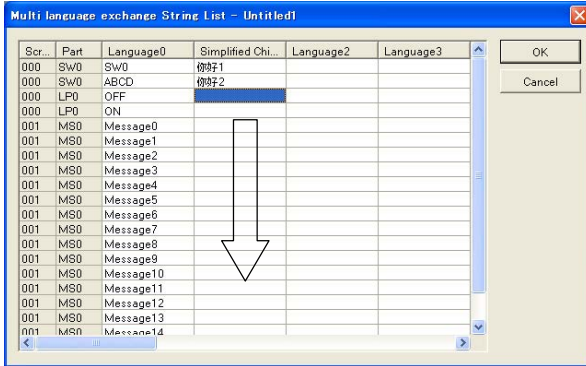
#### Key Point:

- When you practice the multiple language input, make the setting for the keyboard in the IME. For the details of the setting, refer to “5.4 Multi-language Function” in this manual.

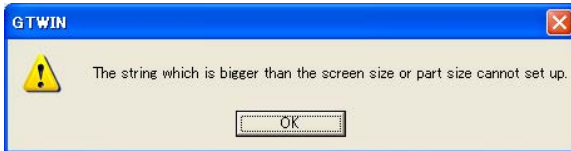
### 4. Move the cursor to the string to be input.



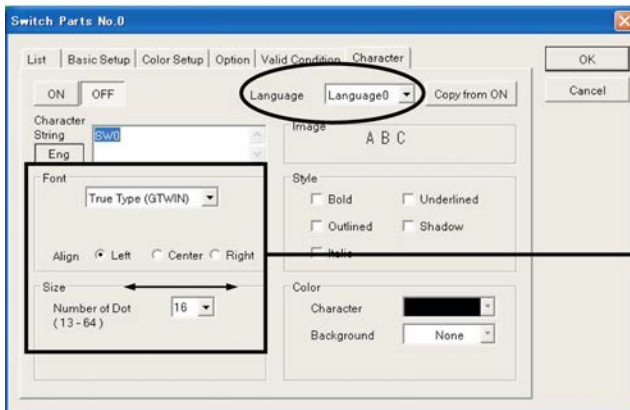
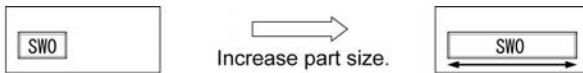
**5. Input the words corresponding to the language 0 in the string of the language 1.**



Note1) The string to be input in the string list must be smaller than the part size.  
If the input characters exceed the part size, the message below will be indicated.



When inputting a longer string, finish the editing. Then, increase the specified part size or change the font size to smaller.



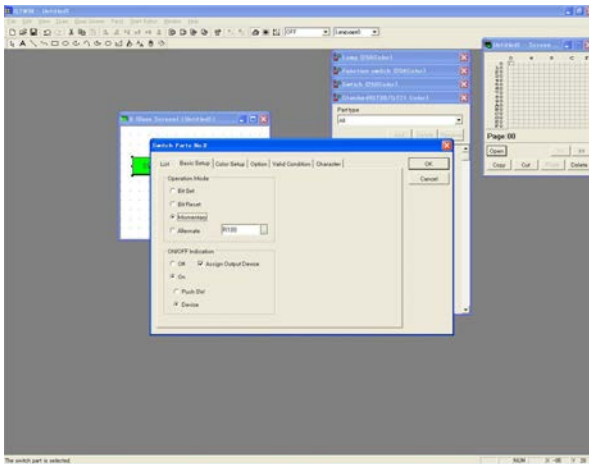
Note2) The character size cannot be specified respectively for each language. The font size which is specified for the language 0 will be used for all languages.

**6. Repeat the procedure 3 to 5 for input languages.**

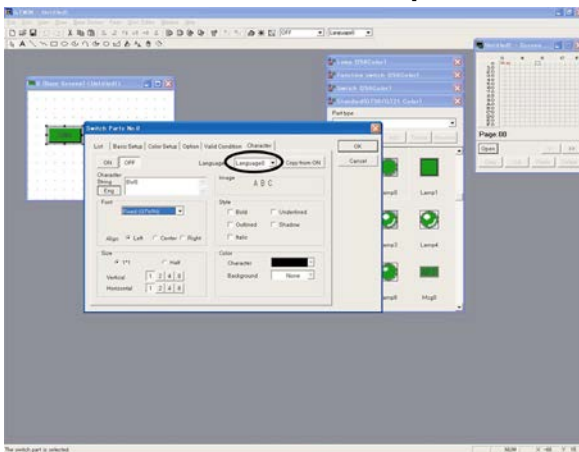
Maximum of 16 languages are available.

## 7.1.4 How to Create Screens On the Base Screen for Each Part

### 1. Click the part you want to edit.

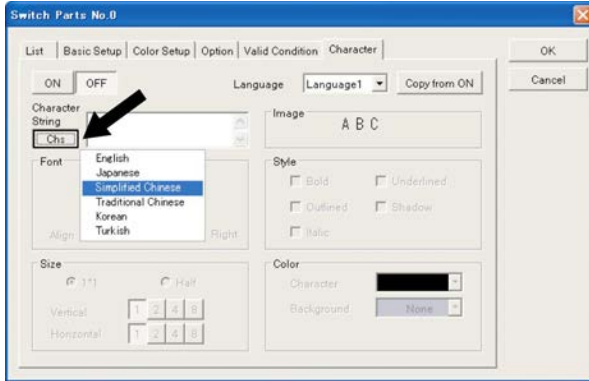


### 2. Click <Character> tab in the part attribute editing.



Select a language No. you want to edit from the upper right pull-down menu which is indicating "Language0". In this case, simplified Chinese will be input for the language 1.

3. After selecting “Language1”, click “Character String” button and select a language you want to input.

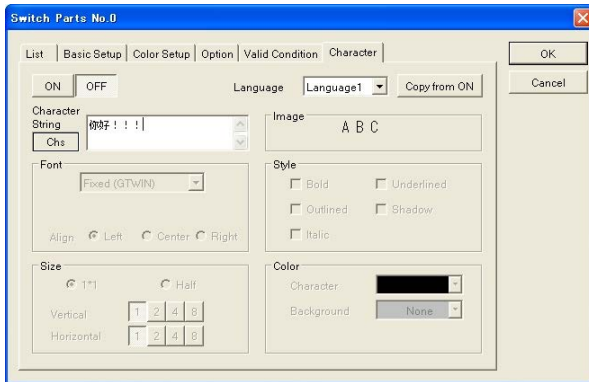


Select simplified Chinese, and the MS-IME will be automatically changed to simplified Chinese. Note1) Fonts cannot be specified for each language.

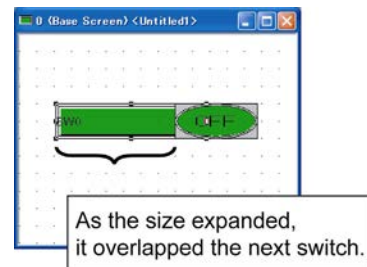
The font setting for the language 0 to 15 is the same as the setting for the language 0.

During the editing for the language 1 to 15, the font setting is not available. Set in editing the language 0.

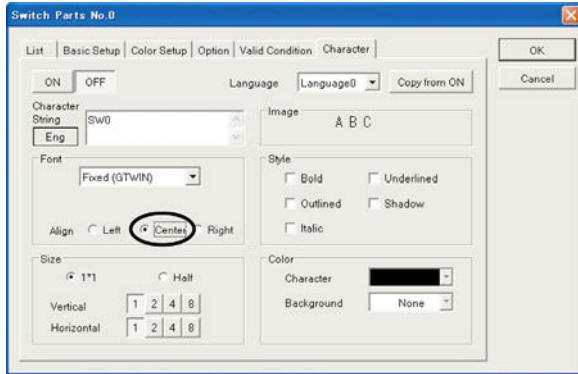
4. Input characters.



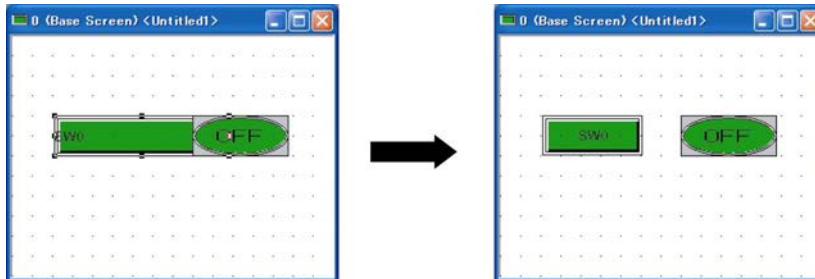
The number of characters for inputting characters is not limited by the part size. The part size changes to fit the longest input string. (figure below)



## 5. When the layout in the SW is not good.



Select "Language0" and change "Align" from "Left" to "Center" to move the switch to the left.

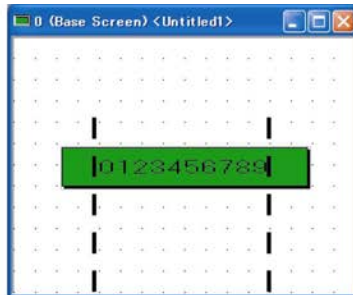




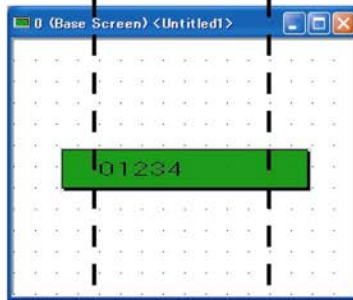
**Key Point:**

- All strings which are input for the language 0 to 15 align at "Left", "Center" or "Right" as specified for the longest string. For example, when inputting "012345678" for the language 0 and "01234" for the language 1, the longest string "0123456789" always align at the center of the part. The alignment of other languages is set to either "Left", "Center" or "Right" for the language 0.

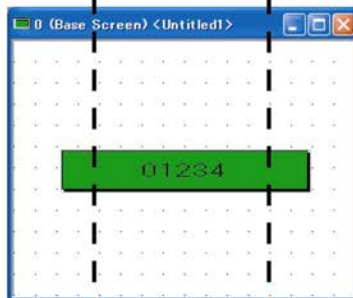
Longest string



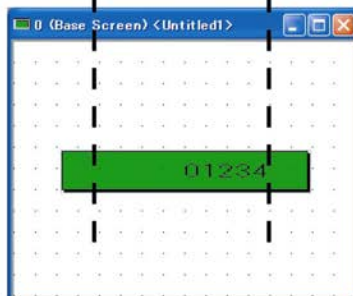
When setting to "Left"



When setting to "Center"

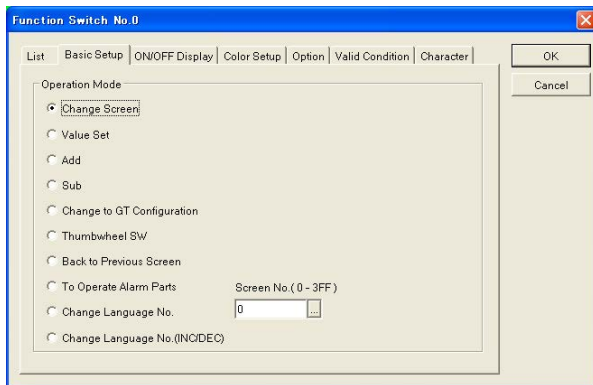
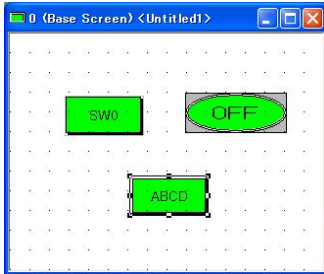


When setting to "Right"

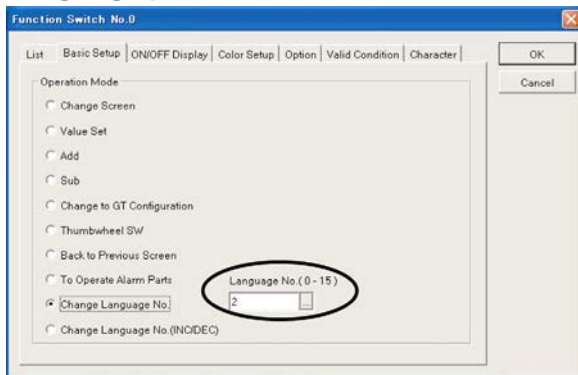


## 7.1.5 How to Change Displayed Language with Switch

1. Paste the Function switch on the base screen, and open the attribute editing screen.



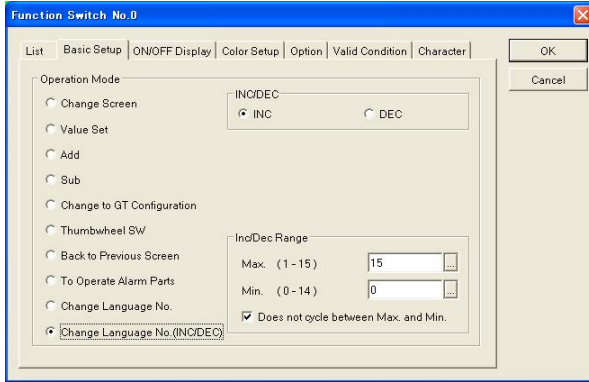
2. Allocate a function to the Function switch. (Change to the specified language.)



When selecting "Change Language No.", input to which language No. will be changed.

When changing to the language 2, select "2" for "Language No. (0-15)". Press the Function switch that this setting has been done to change to the content registered for the language 2.

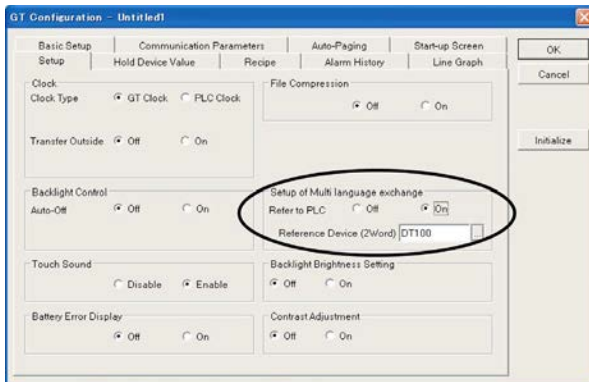




If you want to change languages sequentially by one switch, select “Change Language No.(INC/DEC)”. The languages can be changed over by pressing the switch. Select either “INC(increment)” or “DEC(decrement)”, and input the maximum No. and minimum No. in the language Nos. If “Does not cycle between Max. and Min.” is checked, the language No. does not change anymore even if the switch is pressed once it reaches the max. No. or min. No. If it is not checked, the language No. changes to the minimum No. when incrementing the maximum No., and to the maximum No. decrementing the minimum No.

## 7.1.6 How to Change Displayed Language from PLC

1. Select [File] – [Configuration] – [GT configuration” in the tool bar, and click <Setup> tab.



Check “On” in “Setup of Multi language exchange”, and input a reference device. If the value for the reference device specified here changes, the language display is changed to the No. in the language 0 to 15 depending on the value. Two words are used for a reference device. See the example below for details.

Example: Set the 000F (HEX) when you want to display the language number 15.

DT100	Language No. specified by PLC (Area where GT reads from the PLC.)
DT101	Language No. being displayed (Area where GT writes to the PLC.)

Language No. specified by PLC: Specifies the language No. to be displayed in GT in HEX format from the PLC.

Set 000F(HEX) if

Language No. being displayed: Writes the language No. which GT currently displays to an external device in HEX format.



## Record of changes

Manual No.	Date	Description of changes
ARCT1F357E	Dec.2002	First edition
ARCT1F357E-1	Apr.2003	Second edition PDF only Addition:GT01
ARCT1F357E-2	May.2004	Third edition PDF only
ARCT1F357E-3	Jul.2004	Fouth edition PDF only Addition:Chapter 8
ARCT1F357E-4	Sep.2004	Fifth edition Addition:GT11
ARCT1F357E-5	Dec.2005	Sixth edition Addition:GT21