

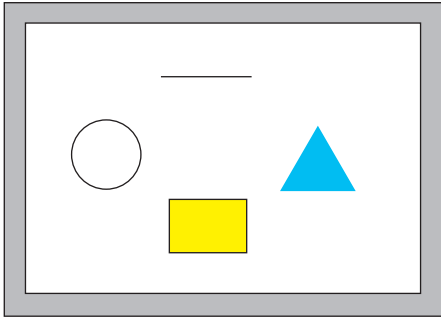
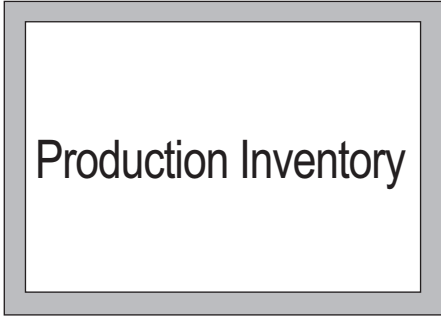
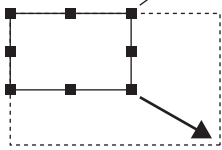
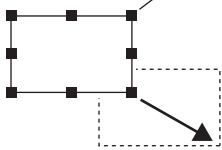
9 | Draw (Pictures & Text)

This chapter explains basic features of GP-Pro EX’s “Draw (Pictures & Text)” and basic ways of operating the Draw/Edit Tool and the drawing feature.

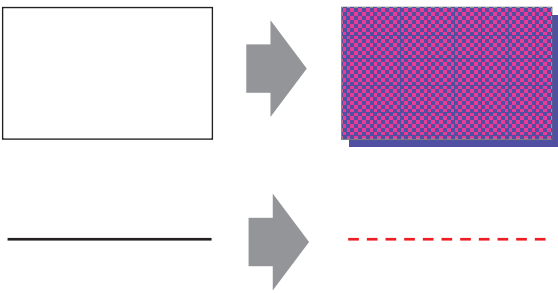
Please start by reading “9.1 Settings Menu” (page 9-2) and then turn to the corresponding page.

9.1	Settings Menu	9-2
9.2	Drawing Pictures	9-6
9.3	Drawing Text	9-22
9.4	Editing	9-25
9.5	Changing Colors, Line Types and Patterns.....	9-33
9.6	Editing a Part.....	9-36
9.7	Using a Screen for Various Purposes	9-48
9.8	Editing the Same Picture on Another Screen.....	9-51
9.9	Creating a Screen from a Template	9-55
9.10	Pasting an Image	9-62
9.11	Drawing a Detailed Picture.....	9-65
9.12	Setting Guide	9-75
9.13	Restrictions	9-79

9.1 Settings Menu

Drawing Pictures	
	<p>☞ "9.2.1 Drawing Pictures List" (page 9-6)</p>
<p>Draws a line, rectangle, and other pictures.</p>	
Drawing Text	
	<p>☞ Setup Procedure (page 9-22)</p>
<p>Places text on the screen.</p>	
Editing	
<p>Enlarging/Reducing</p>  <p>Drag it to a desired size.</p>	<p>☞ "9.4.1 Editing Tools" (page 9-25)</p>
<p>Moving an Object</p>  <p>Drag it to a desired position.</p>	
<p>Edits (enlarges/reduces or moves) screens.</p>	

Changing Colors, Line Types and Patterns

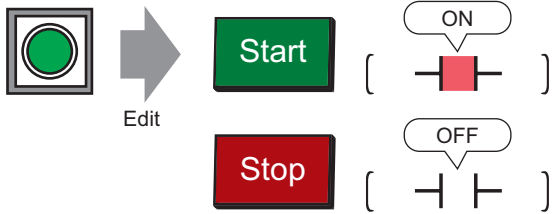


Changes a picture's color, line type, and pattern.

☞ "9.5 Changing Colors, Line Types and Patterns" (page 9-33)

Editing a Part

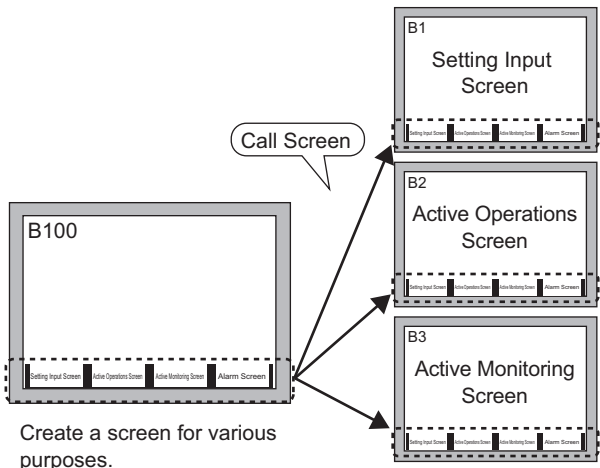
Lamp



You can change a part's shape, color, and label.

☞ "9.6.1 Procedure for Editing a Part" (page 9-36)

Using a Screen for Various Purposes

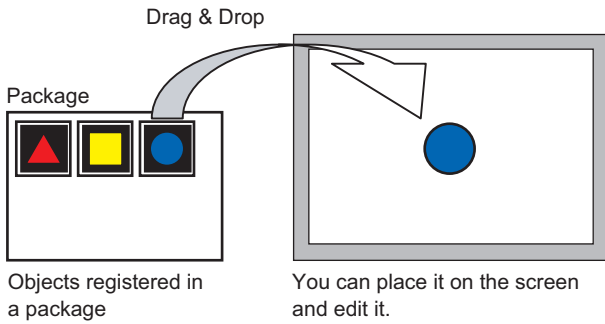


Create a screen for various purposes.

You can call and display various screens.

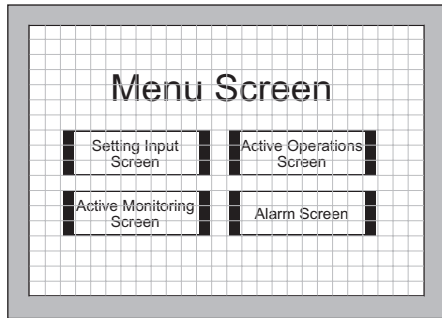
☞ Setup Procedure (page 9-48)

Editing the Same Picture on Another Screen



- ☞ “9.8.1 Placing a Picture Registered in a Package” (page 9-51)
- ☞ “9.8.2 Registering a Created Picture in a Package” (page 9-53)

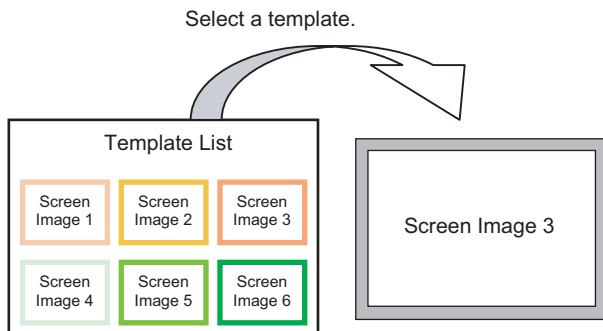
Grid Settings



You can display an equally spaced grid on the editing screen and place a part with reference to an intersecting point.

- ☞ Setup Procedure (page 9-55)
- ☞ Details (page 9-55)

Selecting a Screen from Templates



You can save the trouble by editing screens from a template screen.

- ☞ “9.9.2 Selecting a Screen from Templates” (page 9-59)

Pasting an Image

Pro-face

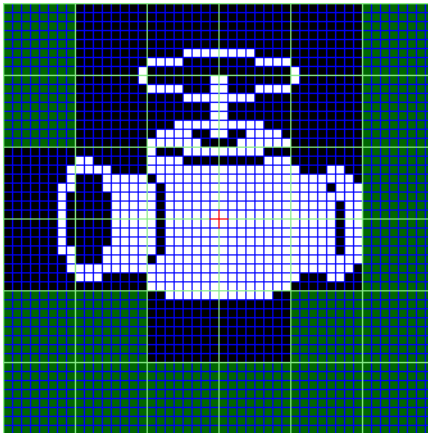
BMP, JPEG, etc.



Converts image data and places it on the screen.

- ☞ Setup Procedure (page 9-63)
- ☞ Target Image (page 9-62)

Drawing a Detailed Picture











You can draw a picture by the dot.

- ☞ Setup Procedure (page 9-65)
- ☞ Details (page 9-65)



9.2 Drawing Pictures

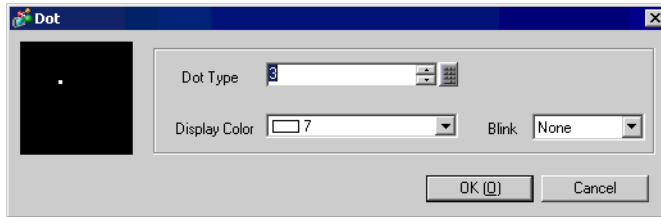
9.2.1 Drawing Pictures List



Picture	Description
Dot 	Draws a dot. ☞ "9.2.2 Drawing a Dot" (page 9-7)
Line/Polyline 	Draws a line/polyline. ☞ "9.2.3 Drawing a Line/Polyline" (page 9-8)
Rectangle 	Draws a rectangle. ☞ "9.2.4 Drawing a Rectangle" (page 9-10)
Circle/Oval 	Draws a circle/oval. ☞ "9.2.5 Drawing a Circle/Oval" (page 9-12)
Arc/Pie 	Draws an arc/pie. ☞ "9.2.6 Drawing an Arc/Pie" (page 9-14)
Polygon 	Draws a polygon. ☞ "9.2.7 Drawing a Polygon" (page 9-16)
Scale 	Draws the graph scales. ☞ "9.2.8 Drawing a Scale" (page 9-18)
Table 	Draws a table. ☞ "9.2.9 Drawing a Table" (page 9-20)

9.2.2 Drawing a Dot

One to five dots can be drawn at a time.




Click the [Draw (D)] menu - [Dot (D)] command or click  to place a dot on the screen. If you click  and double-click the placed [Dot], the following dialog box will be displayed.



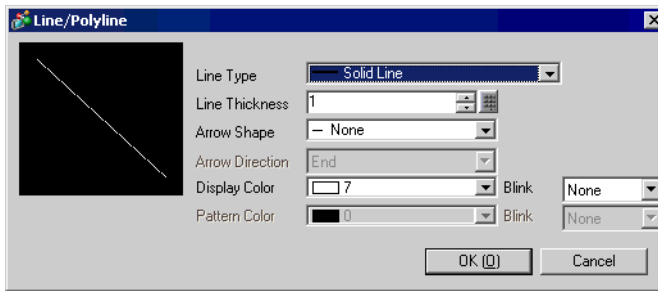
-  For display colors, refer to “9.5.1 Specify Color” (page 9-33)
-  For blinking, refer to “9.5.2 Setting Blink” (page 9-35)






9.2.3 Drawing a Line/Polyline

Draw a line by dragging the mouse from the start point to the end point. To draw a polyline, click the start point, joint, and end point and right-click to define a line.


Click the [Draw (D)] menu - [Line (L)] or [Polyline (U)] command, or click  or  to place a line/polyline on the screen. If you click  and double-click the placed [Line] or [Polyline], the following dialog box will be displayed.

- NOTE**
- If you press and hold the [Shift] key while placing a line, you can draw a line at an angle of 0 degrees and 90 degrees.
 - If you place a line while pressing the [Ctrl] key, you can draw a line extending from the center. If you place a line while pressing the [Ctrl] and [Shift] keys at the same time, you can draw a line of 0 degrees or 90 degrees extending from the center.
 - To edit the line/polyline after placing it, click the line in the selected state and make it a yellow handle. You can change the line's shape by dragging the line.
 - You can draw a polyline as if by hand by dragging it while left-clicking.




Setting	Description
Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line]. ☞ "9.5.3 Setting the Line Type" (page 9-35)
Line Thickness	Set the line thickness within the range of 1 to 9 dots. NOTE • When line types other than [Solid Line] are selected in [Line Type], the setting range is 1 to 2 dots.
Arrow Shape	Select the arrow shape from  ,  ,  ,  , or  .
Arrow Direction	Select the arrow direction from [Start], [End], or [Both Ends].
Display Color	Set the line's color. ☞ "9.5.1 Specify Color" (page 9-33)
Pattern Color	Select the pattern's color. This function can be used only when line types other than [Solid Line] are selected in [Line Type].


Continued

Setting	Description
Blink	<p>Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color].</p> <p>NOTE</p> <ul style="list-style-type: none">• There are cases where you can and can not set Blink depending on the Main Unit and System Settings' [Color Settings]. <p> "9.5.1 Specify Color" (page 9-33)</p>

9.2.4 Drawing a Rectangle

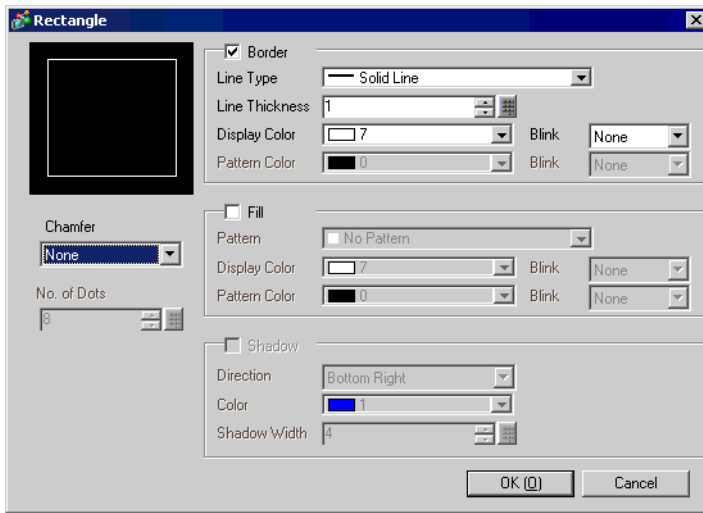
Draw a rectangle by designating two diagonal corners by dragging.

Click the [Draw (D)] menu - [Rectangle (R)] command or click  to place a rectangle on the screen.

Click it to place it on the screen. If you click  and double-click the placed [Rectangle], the following dialog box will appear.

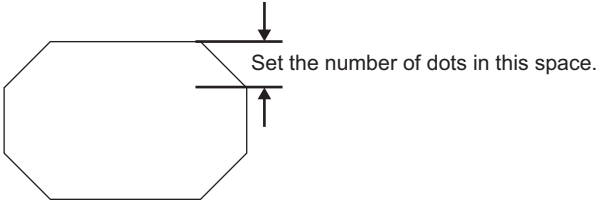
NOTE

- If you press and hold the [Shift] key while placing an object, you can draw a square.
- If you place a rectangle while pressing the [Ctrl] key, you can draw a rectangle spreading out from the center. If you place a rectangle while pressing the [Ctrl] and [Shift] keys at the same time, you can draw a square spreading out from the center.





Setting		Description
Border	Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line]. ☞ "9.5.3 Setting the Line Type" (page 9-35)
	Line Thickness	Set the line thickness within the range of 1 to 9 dots. NOTE • When other line types than [Solid Line] are selected in [Line Type], the line thickness is fixed at 1 dot.
	Display Color	Set the border's color. ☞ "9.5.1 Specify Color" (page 9-33)
	Pattern Color	Select the pattern's color. This function can be used only when line types other than [Solid Line] are selected in [Line Type]. ☞ "9.5.4 Setting the Pattern" (page 9-35)

Continued

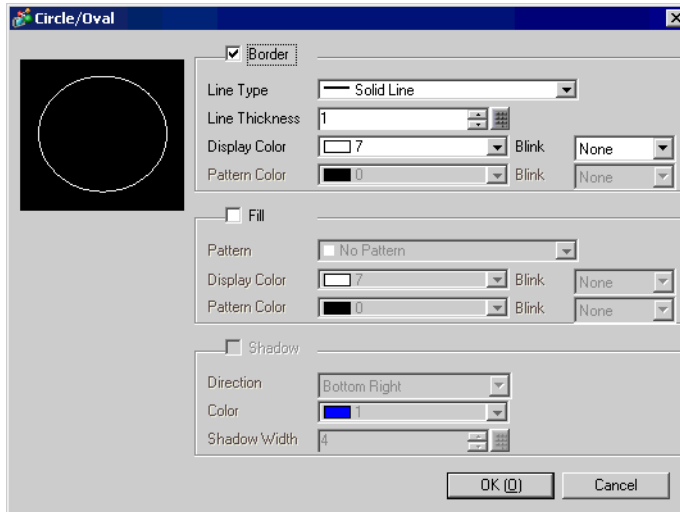
Setting		Description
Border	Blink	<p>Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color].</p> <p>NOTE</p> <ul style="list-style-type: none"> There are cases where you can and can not set Blink depending on the Main Unit and System Settings' [Color Settings]. <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
Fill	Pattern	<p>Set a background pattern for the rectangle.</p> <p>☞ "9.5.4 Setting the Pattern" (page 9-35)</p>
	Display Color	<p>Set a color for the rectangle.</p> <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
	Pattern Color	<p>Set the background pattern's color for the rectangle.</p> <p>☞ "9.5.4 Setting the Pattern" (page 9-35)</p>
	Blink	<p>Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color].</p> <p>NOTE</p> <ul style="list-style-type: none"> There are cases where you can and can not set Blink depending on the Main Unit and System Settings' [Color Settings]. <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
Shadow	Direction	<p>Select the shadow direction from [Top Left], [Bottom Left], [Top Right], or [Bottom Right].</p>
	Color	<p>Set the shadow's color.</p> <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
	Shadow Width	<p>Set the width of the picture and its shadow within the range of 1 to 16.</p>
Chamfer		<p>Select the chamfer's shape from [None], [Line], or [Circle].</p>
No. of Dots		<p>Designate the number of dots for chamfer from 1 to 999.</p>  <p>Set the number of dots in this space.</p>

9.2.5 Drawing a Circle/Oval

Draw a circle/oval by designating the center point and a point on the circumference by dragging.

Click the [Draw (D)] menu - [Circle/Oval (C)] command or click  to place a circle/oval on the screen. If you click  and double-click the placed [Circle/Oval], the following dialog box will be displayed.

- NOTE**
- If you press and hold the [Shift] key while placing an object, you can draw a circle.
 - If you place a circle/oval while pressing the [Ctrl] key, you can draw a circle/oval spreading out from the center. If you place a circle/oval while pressing the [Ctrl] and [Shift] keys at the same time, you can draw a circle spreading out from the center.

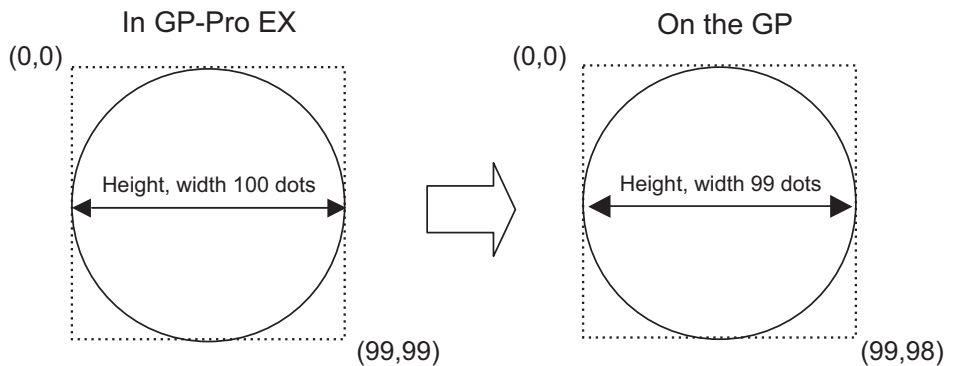


Setting		Description
Border	Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line]. ☞ "9.5.3 Setting the Line Type" (page 9-35)
	Line Thickness	Set the line thickness within the range of 1 to 9 dots. NOTE • When line types other than [Solid Line] are selected in [Line Type], the line thickness is fixed at 1 dot.
	Display Color	Set the border's color. ☞ "9.5.1 Specify Color" (page 9-33)
	Pattern Color	Select the pattern's color. This function can be used only when other line types than [Solid Line] are selected in [Line Type]. ☞ "9.5.4 Setting the Pattern" (page 9-35)

Continued



Setting		Description
Border	Blink	<p>Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color].</p> <p>NOTE</p> <ul style="list-style-type: none"> There are cases where you can and can not set Blink depending on the Main Unit and System Settings' [Color Settings]. <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
	Pattern	<p>Set the background pattern for the circle/oval.</p> <p>☞ "9.5.4 Setting the Pattern" (page 9-35)</p>
Fill	Display Color	<p>Set a color for the circle/oval.</p> <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
	Pattern Color	<p>Set the background pattern color for the circle/oval.</p> <p>☞ "9.5.4 Setting the Pattern" (page 9-35)</p>
	Blink	<p>Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color].</p> <p>NOTE</p> <ul style="list-style-type: none"> There are cases where you can and can not set Blink depending on the Main Unit and System Settings' [Color Settings]. <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
Shadow	Direction	<p>Select the shadow direction from [Top Left], [Bottom Left], [Top Right], or [Bottom Right].</p>
	Color	<p>Set the shadow's color.</p> <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
	Shadow Width	<p>Set the width of the circle/oval and its shadow within the range of 1 to 16.</p>

- NOTE** • You can set the width and height of a circle/oval in the [Properties Window (P)]. However, if you set the width or height to an even number, it will be drawn with one less dot on the GP.



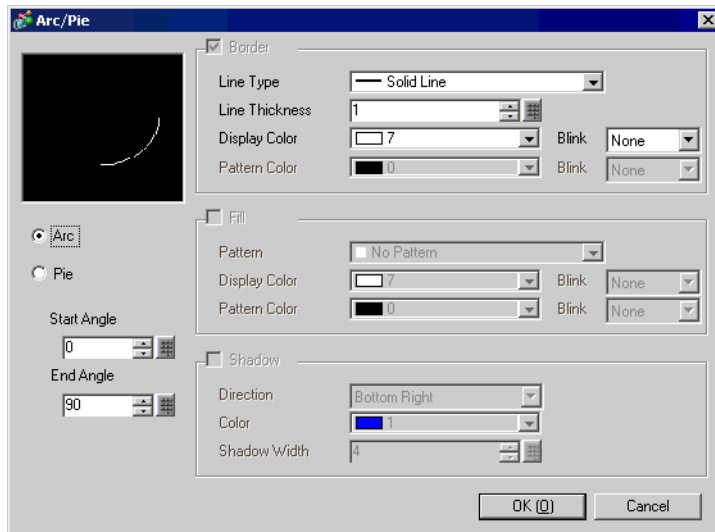
9.2.6 Drawing an Arc/Pie

To draw an arc/pie, drag to designate the center point and a point on the circumference, and designate the start angle and the end angle in the following dialog box. You can select an arc or pie.

Click the [Draw (D)] menu - [Arc/Pie (A)] command or click  to place an arc/pie on the screen. If you click  and double-click the placed [Arc/Pie], the following dialog box will be displayed.



NOTE

- If you press and hold the [Shift] key while placing an object, you can draw a circle arc.
- If you place an arc/pie while pressing the [Ctrl] key, you can draw a circle/oval's arc spreading out from the center. If you place an arc/pie while pressing the [Ctrl] and [Shift] keys at the same time, you can draw a circle's arc spreading out from the center.
- If you edit an arc/pie after placing it, you can change the arc/pie's start angle and end angle by operating the yellow handle in the selected state.
- You can set the width and height of an arc/pie in the [Properties Window (P)]. However, if you set the width or height to an even number, it will be drawn with one less dot on the GP.





Setting		Description
Border	Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line].
	Line Thickness	Set the line thickness within the range of 1 to 9 dots. NOTE • When other line types than [Solid Line] are selected in [Line Type], the line thickness is fixed at 1 dot.
	Display Color	Set the arc/pie's border color.

Continued

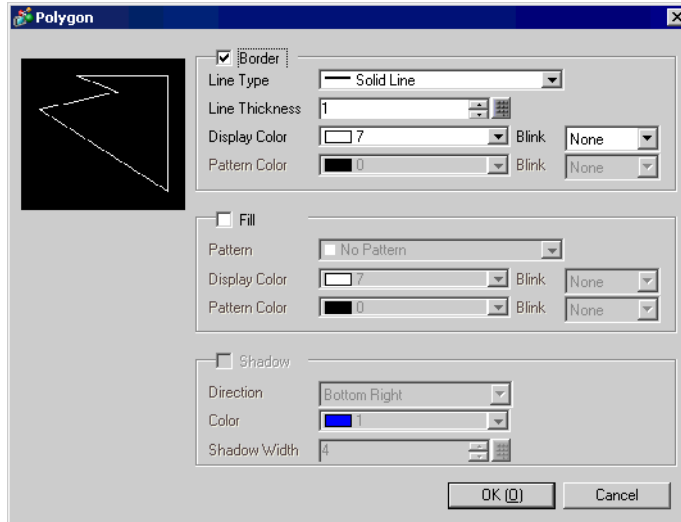
Setting		Description
Border	Pattern Color	Select the pattern's color. This function can be used only when other line types than [Solid Line] are selected in [Line Type].
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. <div style="border: 1px solid black; padding: 2px; display: inline-block;">NOTE</div> <ul style="list-style-type: none"> • There are cases where you can and can not set Blink depending on the Main Unit and System Settings' [Color Settings].  "9.5.1 Specify Color" (page 9-33)
Fill	Pattern	Select a background pattern for the pie.
	Display Color	Set the pie's color.
	Pattern Color	Set the background pattern's color for the pie.
	Blink	Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color]. <div style="border: 1px solid black; padding: 2px; display: inline-block;">NOTE</div> <ul style="list-style-type: none"> • There are cases where you can and can not set Blink depending on the Main Unit and System Settings' [Color Settings].  "9.5.1 Specify Color" (page 9-33)
Shadow	Direction	Select the shadow direction from [Top Left], [Bottom Left], [Top Right], or [Bottom Right].
	Color	Set the shadow's color.
	Shadow Width	Set the width of the arc/pie and its shadow within the range of 1 to 16.
Arc/Pie		Select from [Arc] or [Pie].
Start Angle/End Angle		Set the [Start Angle] or [End Angle].

9.2.7 Drawing a Polygon

To draw a polygon, click each apex and right-click to define a polygon.

Click the [Draw (D)] menu - [Polygon (P)] command or click  to place a polygon on the screen. If you click  and double-click the placed [Polygon], the following dialog box will be displayed.

- NOTE** • To edit the polygon after placing it, click the polygon in the selected state to make it a yellow handle. You can change the polygon's shape by dragging a line.





Setting		Description
Border	Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line]. ☞ "9.5.3 Setting the Line Type" (page 9-35)
	Line Thickness	Set the line thickness within the range of 1 to 9 dots. NOTE • When other line types than [Solid Line] are selected in [Line Type], the line thickness is fixed at 1 dot.
	Display Color	Set the border's color. ☞ "9.5.1 Specify Color" (page 9-33)
	Pattern Color	Select the pattern's color. This function can be used only when other line types than [Solid Line] are selected in [Line Type]. ☞ "9.5.4 Setting the Pattern" (page 9-35)

Continued

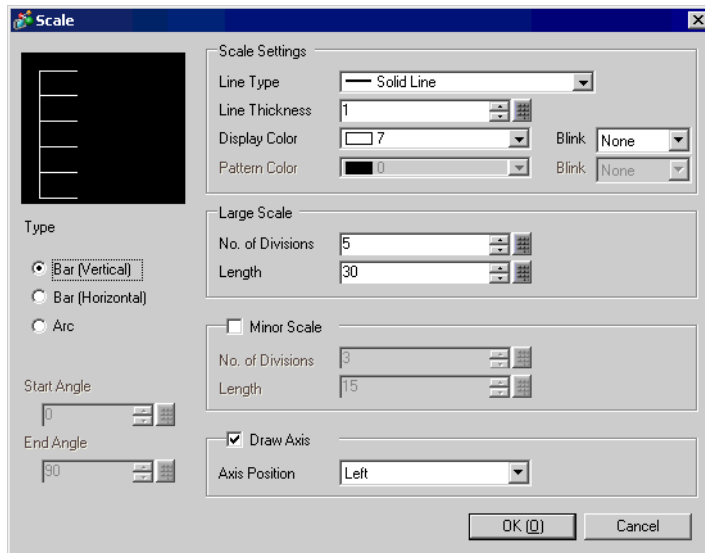
Setting		Description
Border	Blink	<p>Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color].</p> <p>NOTE</p> <ul style="list-style-type: none"> There are cases where you can and can not set Blink depending on the Main Unit and System Settings' [Color Settings]. <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
Fill	Pattern	<p>Set a background pattern for the polygon.</p> <p>☞ "9.5.4 Setting the Pattern" (page 9-35)</p>
	Display Color	<p>Set a color for the polygon.</p> <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
	Pattern Color	<p>Set a background pattern's color for the polygon.</p> <p>☞ "9.5.4 Setting the Pattern" (page 9-35)</p>
	Blink	<p>Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color].</p> <p>NOTE</p> <ul style="list-style-type: none"> There are cases where you can and can not set Blink depending on the Main Unit and System Settings' [Color Settings]. <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
Shadow	Direction	<p>Select the shadow direction from [Top Left], [Bottom Left], [Top Right], or [Bottom Right].</p>
	Color	<p>Set the shadow's color.</p> <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
	Shadow Width	<p>Set the width of the polygon and its shadow within the range of 1 to 16.</p>

9.2.8 Drawing a Scale

Draw a scale by designating two diagonal corners by dragging. Set a scale's number of divisions, etc. in the following dialog box.


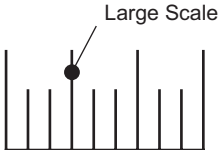
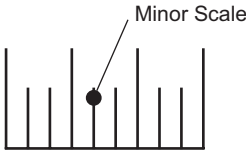
Click the [Draw (D)] menu - [Scale (S)] command or click  to place a polygon on the screen. If you click  and double-click the placed [Scale], the following dialog box will be displayed.

- NOTE** • To edit a scale after placing it, click the line in the selected state to make it a yellow handle. You can change the scale type by operating the yellow handle axis.




Setting		Description
Scale Settings	Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line]. ☞ "9.5.3 Setting the Line Type" (page 9-35)
	Line Thickness	Set the line thickness within the range of 1 to 9 dots. NOTE • When line types other than [Solid Line] are selected in [Line Type], the setting range is 1 to 2 dots.
	Display Color	Select the scale color. ☞ "9.5.1 Specify Color" (page 9-33)
	Pattern Color	Select the pattern's color. This function can be used only when other line types than [Solid Line] are selected in [Line Type]. ☞ "9.5.4 Setting the Pattern" (page 9-35)



Continued

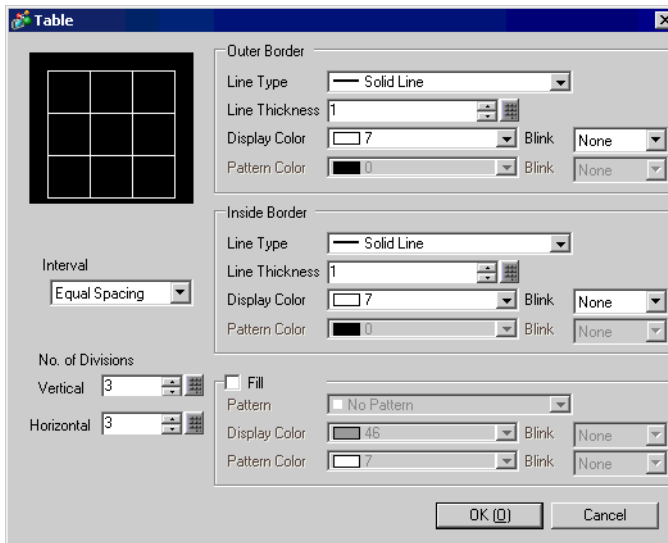
Setting		Description
Scale Settings	Blink	<p>Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color].</p> <p>NOTE</p> <ul style="list-style-type: none"> There are cases where you can and can not set Blink depending on the Main Unit and System Settings' [Color Settings]. <p> "9.5.1 Specify Color" (page 9-33)</p>
Large Scale	No. of Divisions	<p>Select from 1 to 999 large-scale axis divisions.</p> 
	Length	Select the large scale's length from 2 to 3,072.
Minor Scale	No. of Divisions	<p>Select from 2 to 999 minor-scale axis divisions.</p> 
	Length	Select the minor scale's length from 1 to 3,071.
Draw Axis		Select the scale's direction from the axis from [Left] or [Right].
Type	Bar (Vertical)	Displays the scale for a vertical bar graph.
	Bar (Horizontal)	Displays the scale for a horizontal bar graph.
	Arc	<p>Displays the scale for a circle graph.</p> <p>NOTE</p> <ul style="list-style-type: none"> You can set the width and height of a scale in the [Properties Window (P)]. However, if you set the width or height to an even number, it will be drawn with one less dot on the GP.
Start Angle/End Angle		Set the [Start Angle] or [End Angle].

9.2.9 Drawing a Table

Draw a table by designating two diagonal corners by dragging. Set the number of lines and columns, etc. in the following dialog box.

Click the [Draw] menu - [Table] command, or click  , place a table on the screen and double-click it to display the following dialog box.

- NOTE**
- To edit the table after placing it, click a line of the table in the selected state to make it a yellow handle. You can change the table's inside border spacing by operating the yellow handle.
 - When you click on  , you can place the number of divisions in the selected table by dragging the table's number of border divisions, and moving the  to the drawing screen.



Setting		Description
Outer Border	Line Type	Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line]. ☞ "9.5.3 Setting the Line Type" (page 9-35)
	Line Thickness	Set the line thickness within the range of 1 to 9 dots. NOTE • When other line types than [Solid Line] are selected in [Line Type], the line thickness is fixed at 1 dot.
	Display Color	Set the outer border color for the table. ☞ "9.5.1 Specify Color" (page 9-33)
	Pattern Color	Select the pattern's color. This function can be used only when other line types than [Solid Line] are selected in [Line Type]. ☞ "9.5.4 Setting the Pattern" (page 9-35)

Continued

Setting		Description
Outer Border	Blink	<p>Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color].</p> <p>NOTE</p> <ul style="list-style-type: none"> There are cases where you can and can not set Blink depending on the Main Unit and System Settings' [Color Settings]. <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
Inside Border	Line Type	<p>Select the line type from [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line].</p> <p>☞ "9.5.3 Setting the Line Type" (page 9-35)</p>
	Line Thickness	<p>Set the line thickness within the range of 1 to 9 dots.</p> <p>NOTE</p> <ul style="list-style-type: none"> When other line types than [Solid Line] are selected in [Line Type], the line thickness is fixed at 1 dot.
	Display Color	<p>Set the inside border color for the table.</p> <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
	Pattern Color	<p>Select the pattern's color. This function can be used only when other line types than [Solid Line] are selected in [Line Type].</p> <p>☞ "9.5.4 Setting the Pattern" (page 9-35)</p>
	Blink	<p>Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color].</p> <p>NOTE</p> <ul style="list-style-type: none"> There are cases where you can and can not set Blink depending on the Main Unit and System Settings' [Color Settings]. <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
Fill	Pattern	<p>Select whether or not the Part will blink, and the blink speed. You can choose different blink settings for the Part's [Display Color] and [Pattern Color].</p> <p>☞ "9.5.4 Setting the Pattern" (page 9-35)</p>
	Display Color	<p>Select a background pattern for the table.</p> <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
	Pattern Color	<p>Set the table's color.</p> <p>☞ "9.5.4 Setting the Pattern" (page 9-35)</p>
	Blink	<p>Set the background pattern's color for the table.</p> <p>NOTE</p> <ul style="list-style-type: none"> There are cases where you can and can not set Blink depending on the Main Unit and System Settings' [Color Settings]. <p>☞ "9.5.1 Specify Color" (page 9-33)</p>
Interval		<p>Select from [Equal Spacing] or [Free].</p> <ul style="list-style-type: none"> Equal Spacing The row width and column width are automatically made equal. Free The row width and column width can be adjusted freely.
No. of Divisions		<p>Designate the number of rows [Vertical] and number of columns [Horizontal] in the table from 1 to 30.</p>

9.3 Drawing Text

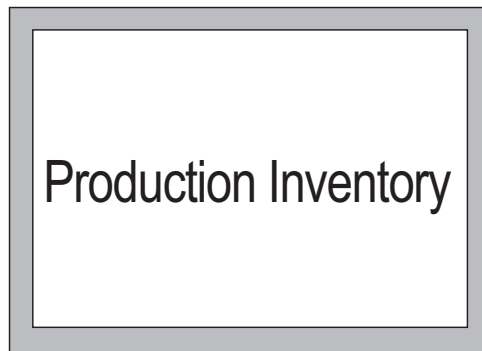
Draw text on the drawing screen.

To draw text in order to switch the screen’s display languages or display content while operating the GP, use a text table. For the settings, refer to “15.4 Changing Languages (Multilanguage)” (page 15-15) .

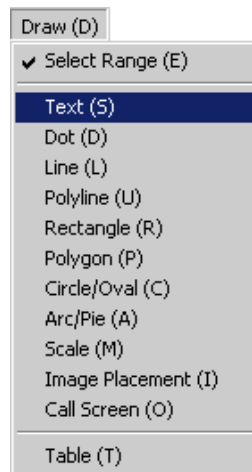
9.3.1 Setup Procedure


NOTE • Please refer to the settings guide for details.
 ☞ “9.12 Setting Guide” (page 9-75)

Place the text “Production Inventory” on the drawing screen.



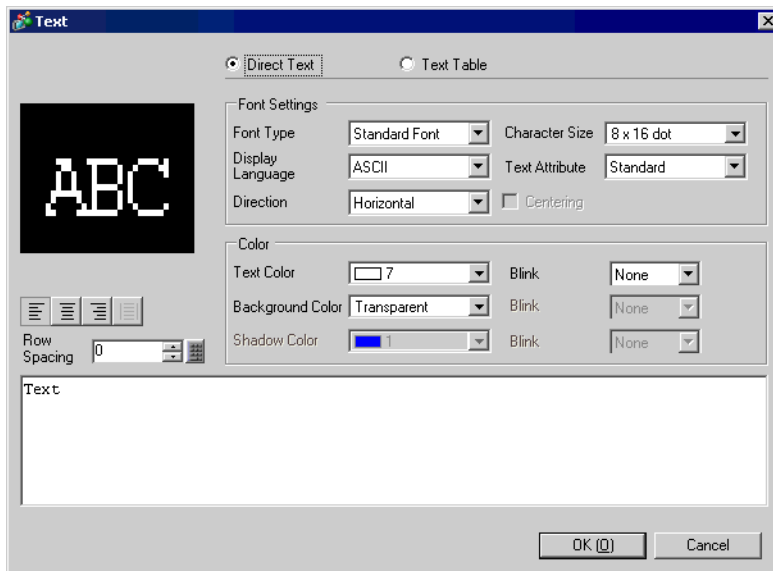
1 Select the [Draw (D)] menu - [Text (S)] command or click **A** to place text on the screen.



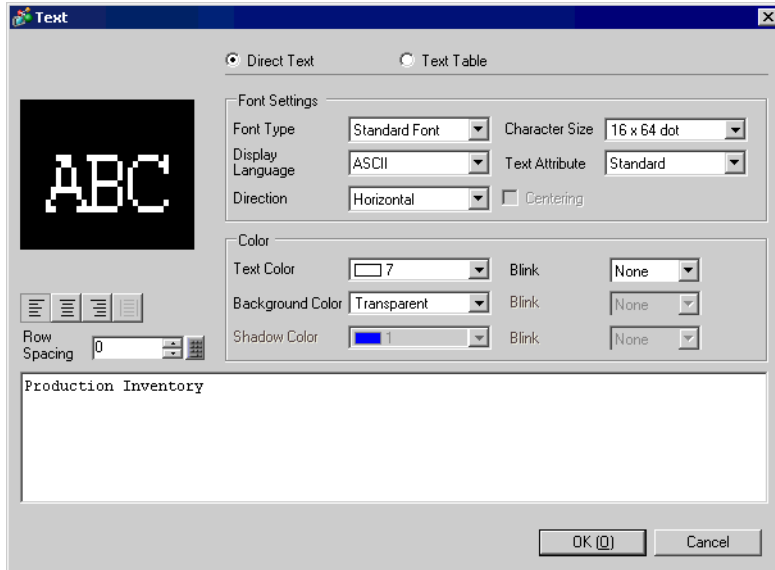
- 2 Click  and then click the placed text. When the text size border is displayed, adjust the size and place the text.



- 3 Double-click the placed text and the [Text] dialog box will be displayed.



4 Designate the font and size and input text to place in the Input Text border.








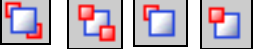



5 Click [OK] and the inputted text “Production Inventory” will be placed.




9.4 Editing

9.4.1 Editing Tools

Setting	Description
Cut 	Cuts an object (part, text, and pictures). You can place the cut object on the screen using [Paste]. Operation Procedure Select a target object and click the [Edit] menu - [Cut] command to cut an object.
Copy 	Copies an object. Using the [Paste] command, you can then paste the copied object onto another screen. Operation Procedure Select a target object and click the [Edit] menu - [Copy] command to copy an object.
Paste 	Pastes the copied or cut object onto a screen. Operation Procedure Click the [Edit] menu - [Paste] command to paste the copied or cut object.
Duplicate 	Copies multiple pictures at a time. When duplicating parts, you can automatically assign the next consecutive address after the source part's address to the destination part. ☞ "9.4.5 Duplicate" (page 9-28)
Delete 	Deletes an object. Operation Procedure Select a target object and click the [Edit] menu - [Delete] command to delete the object.
Select All	Selects all the objects on the screen. You can also select multiple objects by dragging the mouse around them. ☞ "9.4.2 Selection Method" (page 9-26)
Edit Vertex 	You can edit, delete or insert each vertex coordinate of a polyline or polygon. ☞ "■ Edit Vertex" (page 9-29)
Group 	You can group multiple objects together and treat them as one unit. ☞ "9.4.7 Grouping/Un grouping" (page 9-30)
Order 	You can change the order of placed overlapping objects. ☞ "9.4.8 Order" (page 9-30)
Place/Align 	You can adjust the positions of multiple objects (Align Right, Align Left, Align Center, etc.). ☞ "9.4.9 Alignment" (page 9-31)

Continued

Setting	Description
Rotate/Flip 	<ul style="list-style-type: none"> • Rotate Rotates the object by 90 degrees. ☞ “9.4.10 Rotating Right/Left” (page 9-31) • Flip Flips the object horizontally or vertically. ☞ “9.4.11 Flipping Vertically/Horizontally” (page 9-31)
Others	Sets a grid and guidelines to align a part with another one. ☞ “9.9 Creating a Screen from a Template” (page 9-55)

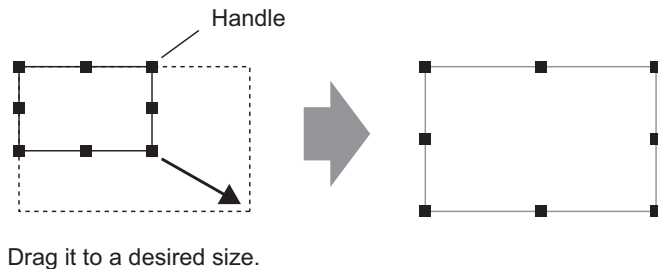
9.4.2 Selection Method

To select an object, click the target directly or drag the mouse around the multiple targets.

- NOTE**
- To select one of the overlapping objects, click the object while pressing the [Ctrl] key. Each object becomes in the selective state in turn, and you can select the target object.
 - To release a particular object from the selected objects, click the target object while pressing the [Shift] key.
 - To add a particular object to the selected objects, click the target object while pressing the [Shift] key.


9.4.3 Enlarging/Reducing

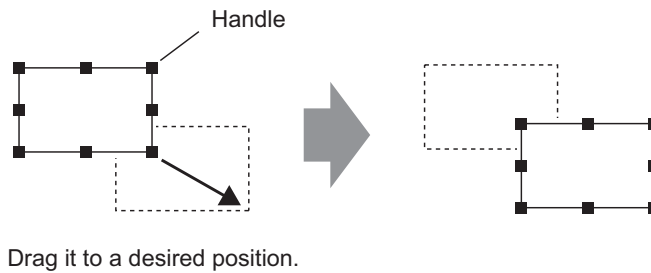
Select the target object and put the cursor on the handle. When the displayed cursor becomes ↔, you can enlarge/reduce the object by dragging it until it becomes the desired size.



- NOTE**
- If you select an object and move the four-cornered handles while pressing the [Shift] key, you can enlarge/reduce it with the same horizontal to vertical ratio.
 - If you use the [↑], [→], [←], and [↓] keys with the cursor on the object handle, you can enlarge/reduce the object by the dot.

9.4.4 Moving an Object

Select the target object and put the cursor on the object. When the displayed cursor becomes , you can move the object by dragging it to the desired position.

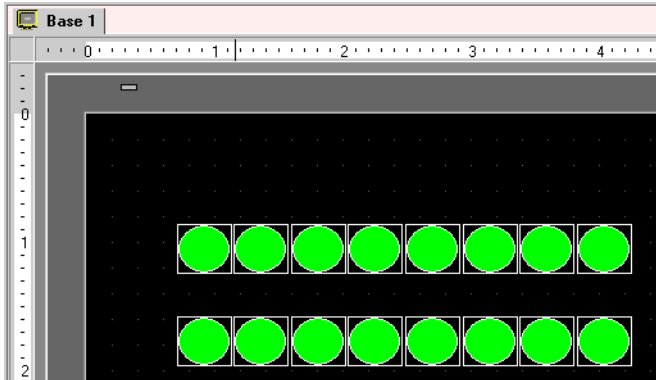
**NOTE**

- If you move while pressing the [Shift] key, you can move the object horizontally or vertically.
- If you use the [↑], [→], [←], and [↓] keys with the object selected, you can move the object by the dot.

9.4.5 Duplicate

Copies multiple pictures at a time.

Right-click an object in the selected state and click [Duplicate].



NOTE • In copying multiple parts, sequential addresses can be automatically assigned to the copy-to parts, starting after the copy-from parts' addresses.

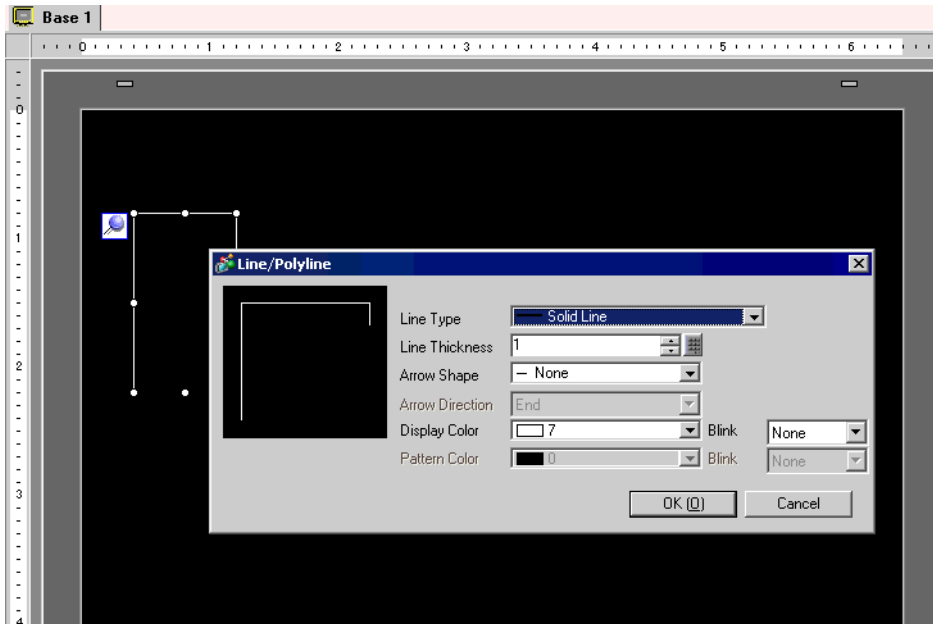
Duplicate	Description
	<ul style="list-style-type: none"> • X Direction Set the number of display positions in the X direction from 1 to 99. • Interval Set the interval between objects within the range of 1 to 99 dots.
	<ul style="list-style-type: none"> • Y Direction Set the number of display positions in the Y direction from 1 to 99. • Interval Set the interval between objects within the range of 1 to 99 dots.
	<ul style="list-style-type: none"> • Copy Direction Select the display direction from , , , , , , , or . <p>NOTE</p>
	<ul style="list-style-type: none"> • When you add addresses, sequential addresses are assigned in the specified direction according to the address addition width.
	<ul style="list-style-type: none"> • Reflect Comment The copy source's comment is reflected in the copy destination.
<ul style="list-style-type: none"> • Add Address You can assign sequential addresses from the copy-from addresses according to the [Addition Width]. • Addition Width Designates an address interval. When the copy-from addresses are bit addresses, addresses are added by the bit. And when the copy-from addresses are word addresses, addresses are added by the word. 	
<ul style="list-style-type: none"> • Addition Target Address When multiple addresses are set to one object, you can designate whether or not to add each address. 	

9.4.6 Changing Attributes

You can change an object's attributes such as color or address.

To change attributes, double-click an object in the selected state or click the [Edit (E)] menu - [Change Attributes (M)] command.

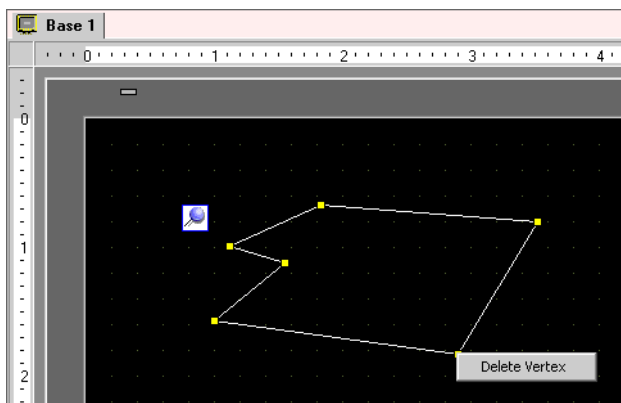
NOTE • When multiple objects are selected, you cannot change attributes.



■ Edit Vertex

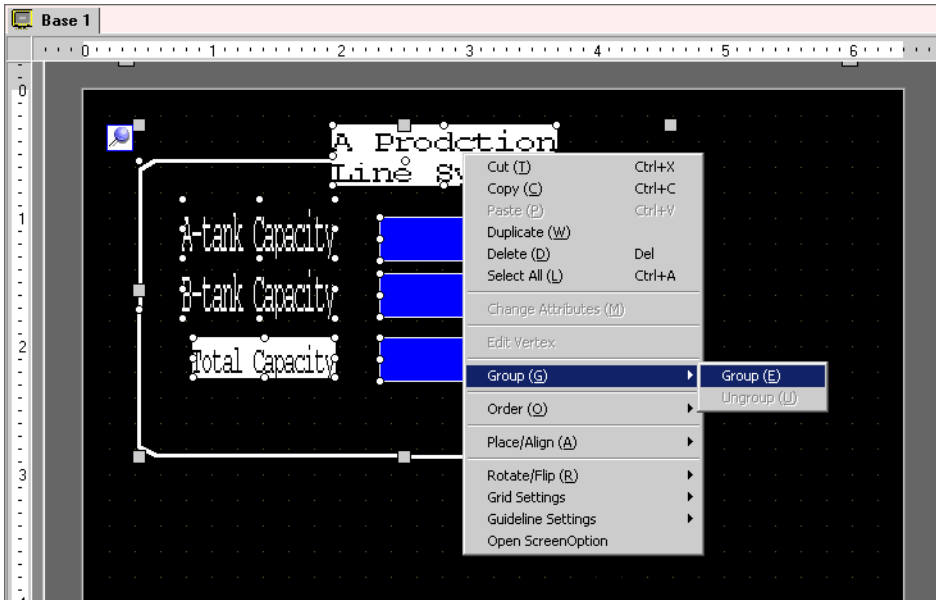
You can edit, delete, or insert each vertex coordinate of a polyline or polygon.

To edit a vertex after placing it, click the line in the selected state to make it a yellow handle as follows. You can change an object shape by dragging any part of the line. To delete a vertex, right-click the vertex to display [Delete Vertex].



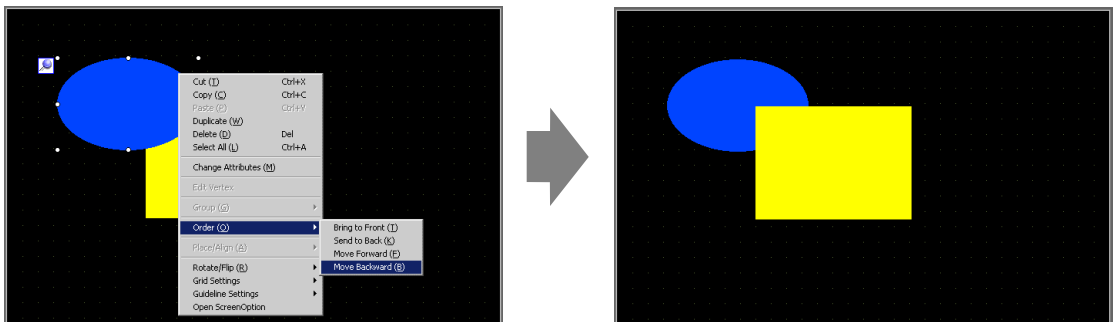
9.4.7 Grouping/Ungrouping

You can group multiple objects and treat them as one object. To group objects, right-click the selected objects and click the [Group (G)] menu - [Group (E)] command. If you click [Ungroup (U)], you can release grouped objects.



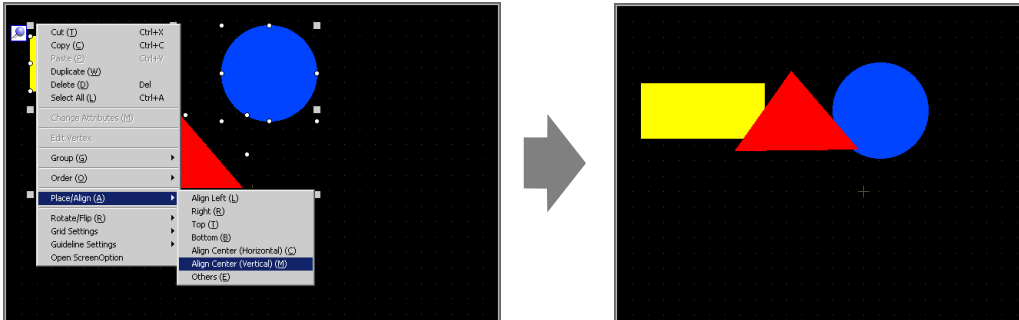
9.4.8 Order

When the placed objects are overlapping, you can change the placement order. Select and right-click the object whose order you want to change, click [Order (O)], and select the object order from [Bring to Front], [Send to Back], [Move Forward], or [Move Backward]. In the following example, the oval is moved backward.



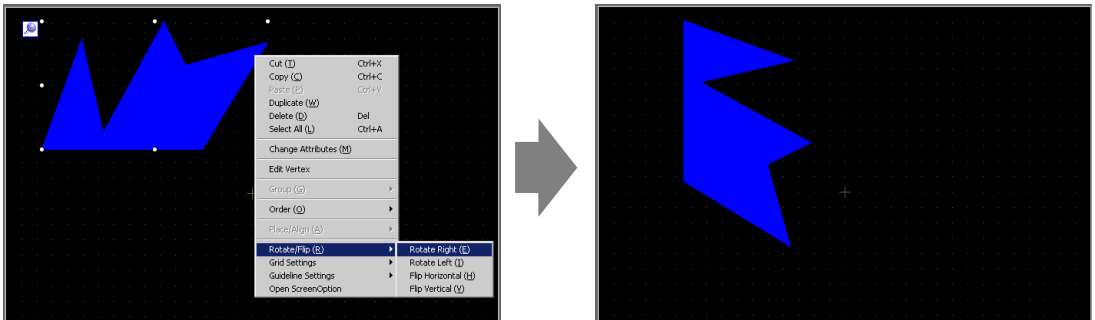
9.4.9 Alignment

You can align the position of multiple objects. Select the multiple objects that you want to align, right-click, and then select [Align Left (L)], [Right (R)], [Top (T)], [Bottom (B)], [Align Center (Horizontal) (C)], [Align Center (Vertical) (M)], or [Others (E)] from [Place/Align (A)]. In the following example, the rectangle, polygon, and circle are all aligned to the top.



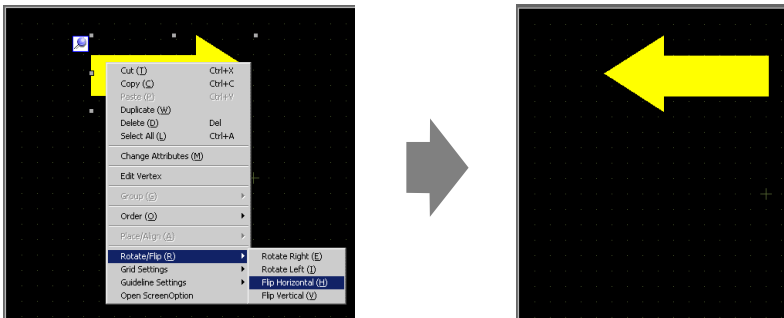
9.4.10 Rotating Right/Left

You can rotate the object 90 degrees right or left. Select the object you want to rotate, right-click, and then select [Rotate Right (E)] or [Rotate Left (I)] from [Rotate/Flip (R)]. In the following example, the polygon is rotated right.



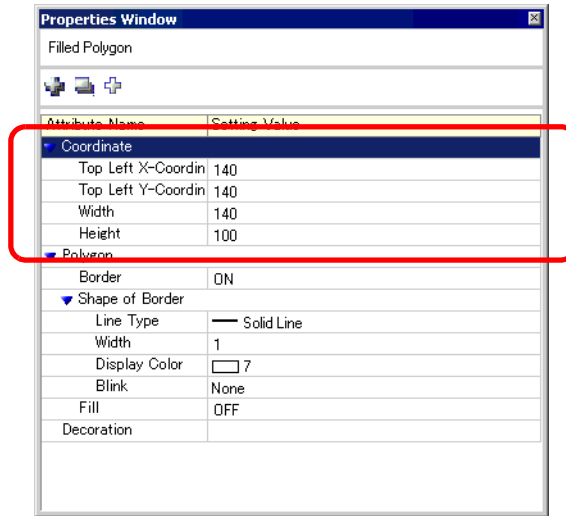
9.4.11 Flipping Vertically/Horizontally

You can flip the object on the X-axis (vertically) or the Y-axis (horizontally) with respect to the center line of the object. Select the object you want to flip, right-click, and then select [Flip Horizontal (H)] or [Flip Vertical (V)] from [Rotate/Flip (R)]. In the following example, the polygon is flipped horizontally.



9.4.12 Changing a Coordinate

You can change the object's position and size by designating a coordinate in the [Properties Window (P)]. The reference of the coordinate is the top left of an object.

**NOTE**

- If the [Properties Window] tab is not displayed in either the work space or the screen drawing area, select the [View (V)] menu - [Work Space (W)] command - [Properties Window (P)] option.

9.5 Changing Colors, Line Types and Patterns

9.5.1 Specify Color

■ Supported Color List

Model	Display Device	Display Color *1 *2	Designated No. of Colors in Drawing
GP3302B	Monochrome Blue Mode LCD	16 Levels, 3-Speed Blink	Monochrome 16 Levels
GP3301L	Monochrome LCD	Monochrome 16 Levels 3-Speed Blink	Monochrome 16 Levels
GP3301S	STN Color LCD	4,096 Colors, 3-Speed Blink	256 Colors
GP3300L	Monochrome LCD	Monochrome 16 Levels 3-Speed Blink	Monochrome 16 Levels
GP3300S	STN Color LCD	4,096 Colors, 3-Speed Blink	256 Colors
GP3300T	TFT Color LCD	65,536 Colors, No Blink 16,384 Colors, 3-Speed Blink	256 Colors
GP3400S	STN Color LCD	4,096 Colors, 3-Speed Blink	256 Colors
GP3400T	TFT Color LCD	65,536 Colors, No Blink 16,384 Colors, 3-Speed Blink	256 Colors
GP3500T	TFT Color LCD	65,536 Colors, No Blink 16,384 Colors, 3-Speed Blink	256 Colors
GP3500L	Monochrome LCD	Monochrome 16 Levels 3-Speed Blink	Monochrome 16 Levels
GP3500S	STN Color LCD	4,096 Colors, 3-Speed Blink	256 Colors
GP3600T	TFT Color LCD	65,536 Colors, No Blink 16,384 Colors, 3-Speed Blink	256 Colors
GP3450T	TFT Color LCD	65,536 Colors, No Blink 16,384 Colors, 3-Speed Blink	256 Colors
GP3550T	TFT Color LCD	65,536 Colors, No Blink 16,384 Colors, 3-Speed Blink	256 Colors
GP3650T	TFT Color LCD	65,536 Colors, No Blink 16,384 Colors, 3-Speed Blink	256 Colors
GP3750T	TFT Color LCD	65,536 Colors, No Blink 16,384 Colors, 3-Speed Blink	256 Colors

*1 Objects with the blink setting blink on the GP. You can set the blink speed to three stages (3-speed).

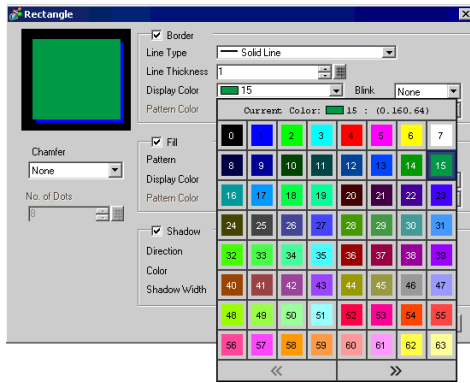
☞ "9.5.2 Setting Blink" (page 9-35)

*2 On monochrome LCD models and STN Color LCD models, when you set a tiling pattern on the screen's background settings and use the blink setting, some drawing components that do not have the blink setting may blink. Please confirm the display on the GP in advance.

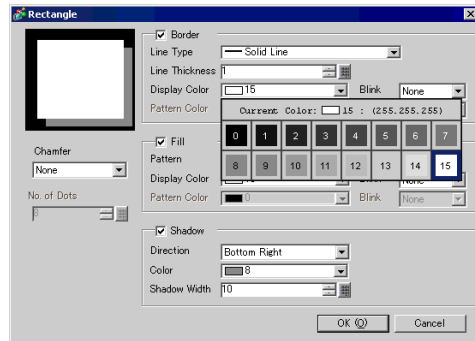
■ Color Designation

Set the object's colors. Setting items, such as colors of a border, fill, shadow or label, differ depending on the part type.

For a 256-color supported model



For a monochrome 16-level supported model



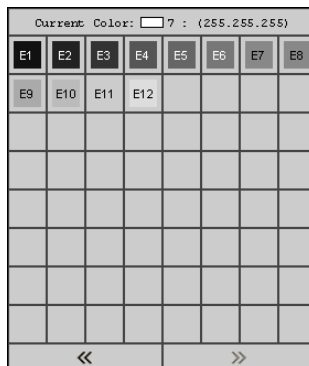
NOTE

- For 256-color supported models, you can move to the next palette with the scroll button at the bottom of the color palette.
- You can only select [Transparent] for the [Pattern Color] for a Switch Lamp that does not use the [Lamp Feature] or for a Key that has a [Pattern] set in the settings dialog box.

IMPORTANT

- For a monochrome 16-level model, there are some cases where color distinction is difficult or where flicker is caused. Use this after confirming the colors.

◆ Color Palette

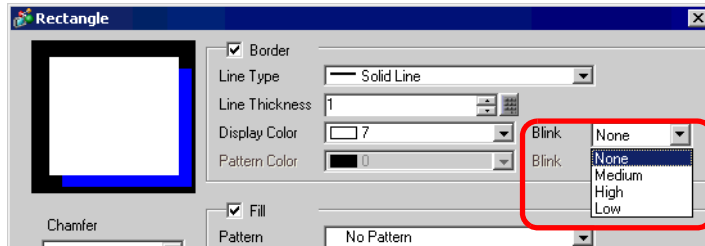


9.5.2 Setting Blink

You can make an object blink on the GP with this function. The blink speed can be set to three stages (Low, Medium, and High).

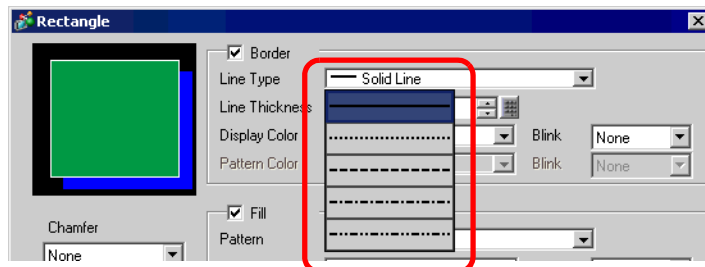
[High] is twice the speed of [Medium] and [Low] is half the speed of [Medium]. If you select [None], the object will not blink.

NOTE • For dark color blink, refer to “6.13.6 [System Settings Window] Setting Guide
 ■ [Main Unit Settings] Settings Guide ◆ Display Settings” (page 6-90) .



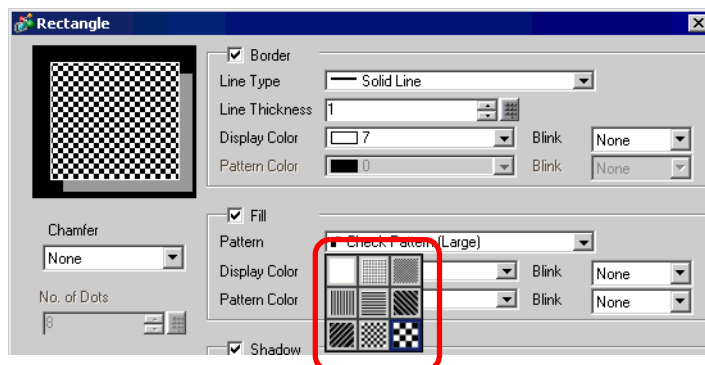
9.5.3 Setting the Line Type

You can select the line type from five types: [Solid Line], [Dashed Line], [Dash Line], [Chain Line], or [Two-Dot Chain Line].



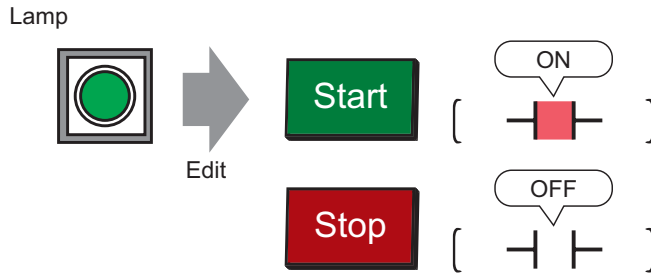
9.5.4 Setting the Pattern




The pattern type can be selected from the nine following types.

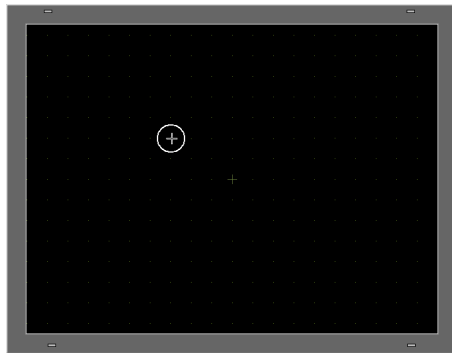


9.6 Editing a Part

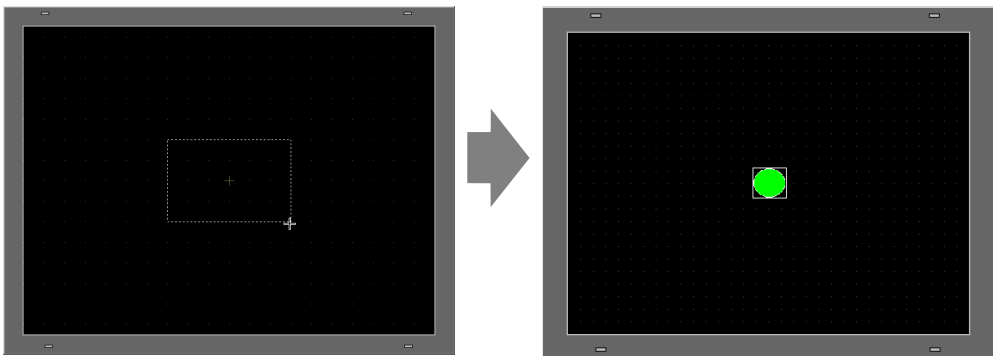
9.6.1 Procedure for Editing a Part



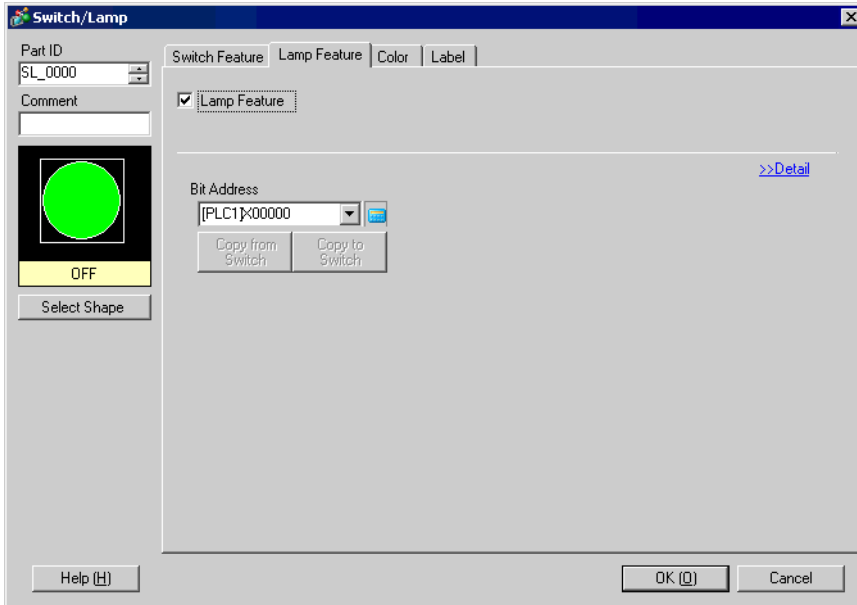
- 1 Select the [Part (P)] menu - [Switch Lamp (C)] option - [Lamp (L)] command or click .
- 2 Move  to the drawing screen and it becomes .




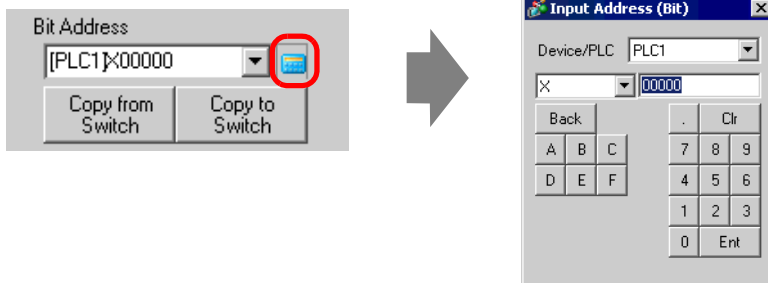
- 3 Drag the mouse in the location where you want to place a switch. The switch will be placed in the dragged area.




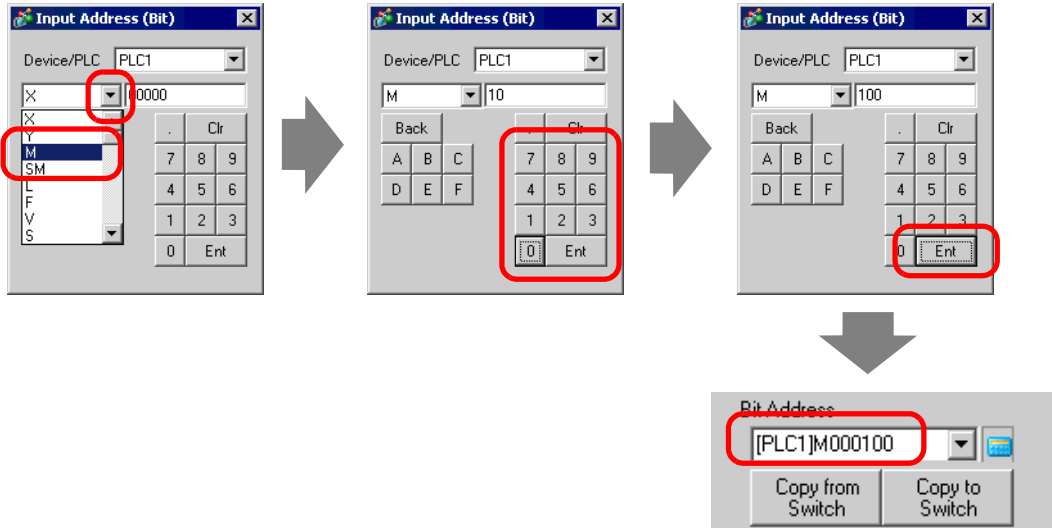
4 Double-click the placed Lamp and the settings dialog box opens.



5 Click  and input the bit address in the [Input Address (Bit)] dialog box.

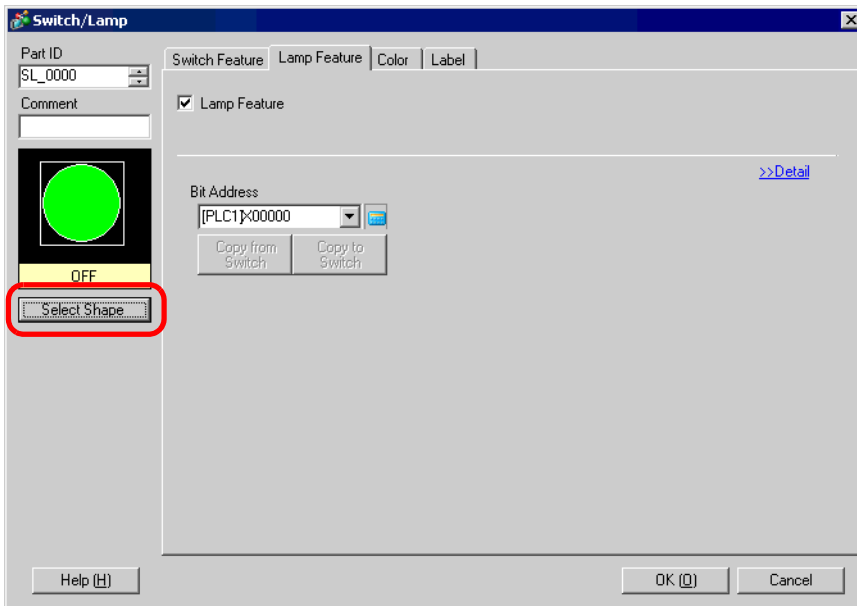


6 Click  and select the [Device/PLC] and [Device]. Input an address from the keypad.

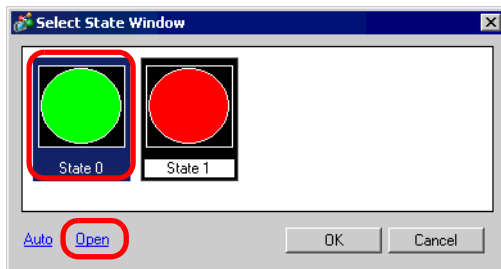


NOTE • Input the address with the keypad. If you input it directly with the PC keyboard, it may not be recognized as an address.

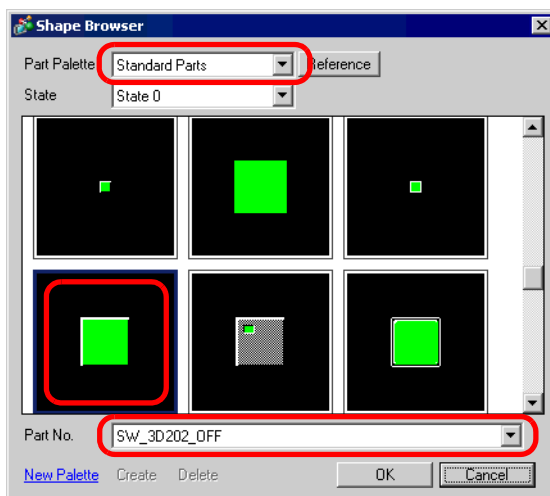
7 Click [Select Shape].



8 [Select State Window] is displayed. Select [State 0] and click [Open].

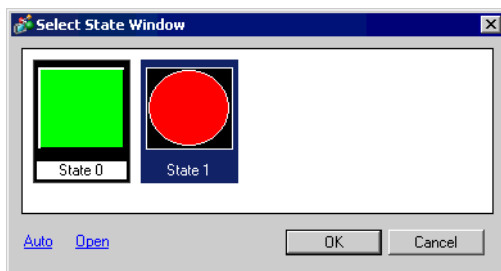


9 Select “Standard Parts” from the [Part Palette]. Next select the [Part No.] “SW_3D202_OFF” picture.

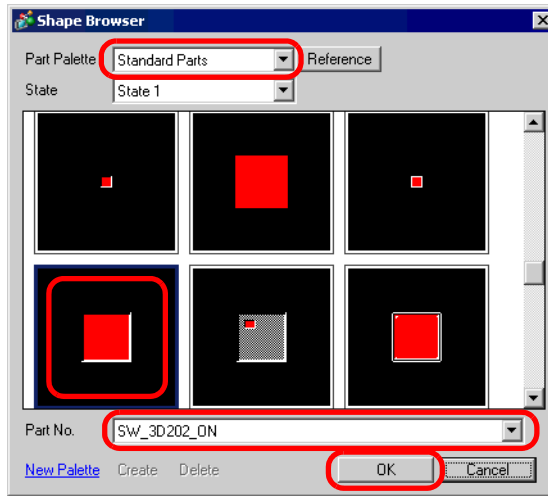


NOTE • You can select various pictures by switching the [Part Palette].

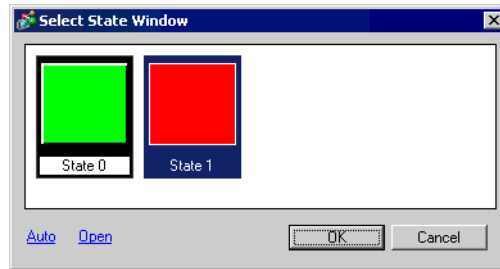
10 Click [OK] and the display returns to the [Select State Window]. Select [State 1] and click [Open].




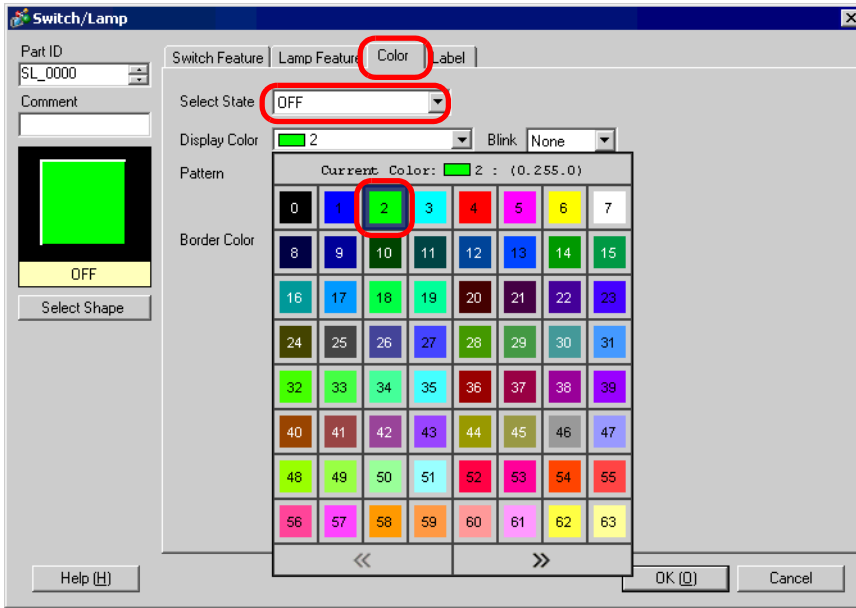
- 11 Select “Standard Parts” from the [Part Palette]. Next select the [Part No.] “SW_3D202_ON” picture and click [OK].



- 12 The pictures at [State 0] (OFF) and at [State 1] (ON) are displayed in the [Select State Window]. Click [OK].

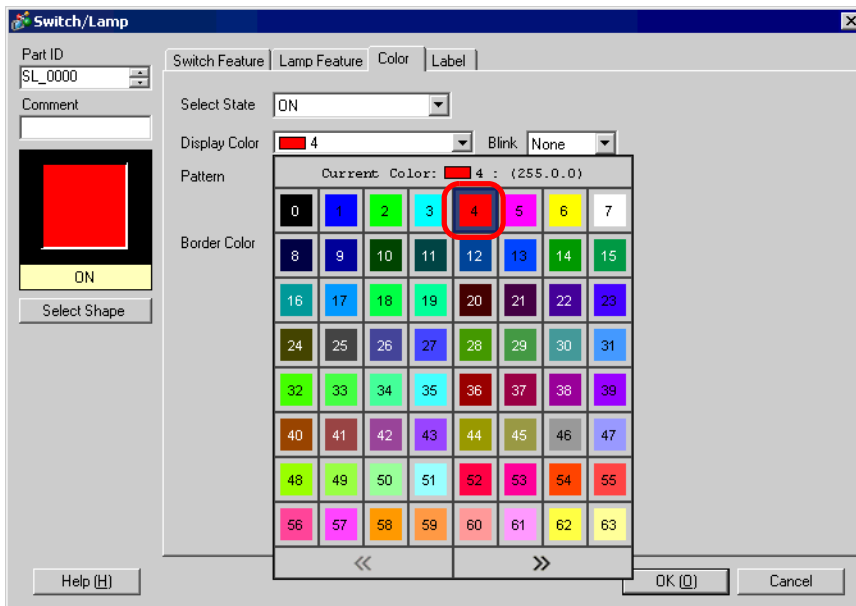
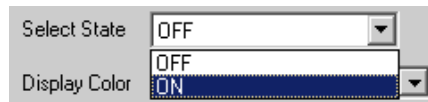


- 13 Click the [Color] tab. Confirm that [Select State] is OFF and set the color of the switch for When OFF. Click  in [Display Color] and select the display color from the color palette.



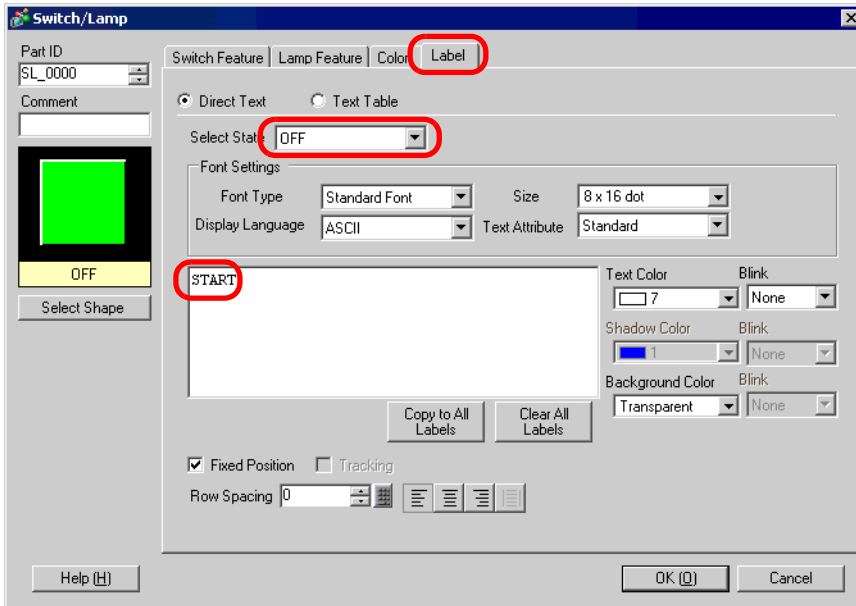
NOTE • You cannot edit the color for the Switch/Lamp's image parts.

- 14 Select ON in [Select State] and set the color of the switch for When ON.

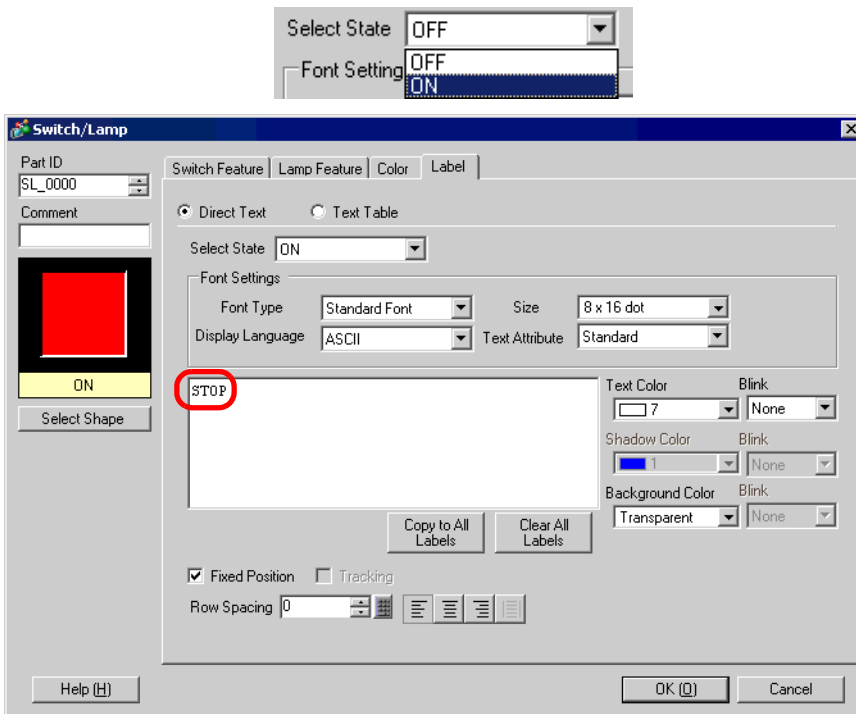


NOTE • You cannot edit the color for the Switch/Lamp's image parts.

- 15 Select the [Label] tab. Select [OFF] in [Select State] and input the text to display on the switch in the OFF state. (e.g.: START)



- 16 Select [ON] in [Select State] and input the text to display on the switch in the ON state. (e.g.: STOP)

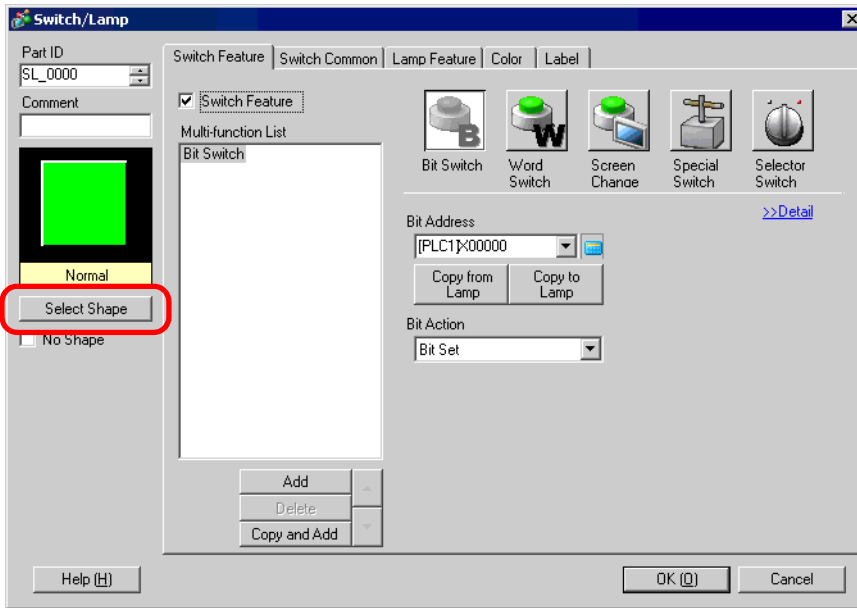


- 17 Click [OK] when all the settings are complete.

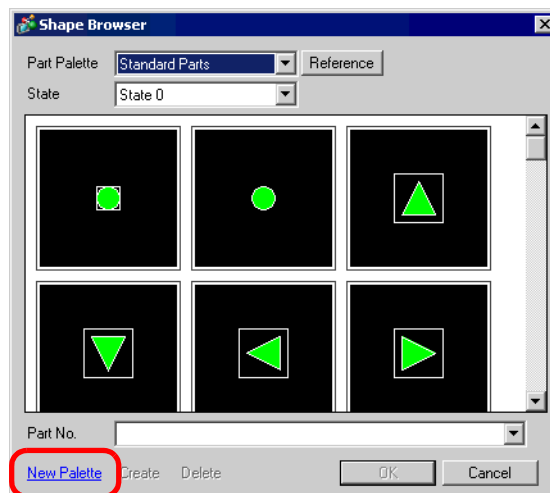
9.6.2 Creating a Part Image

You can register new images for parts.

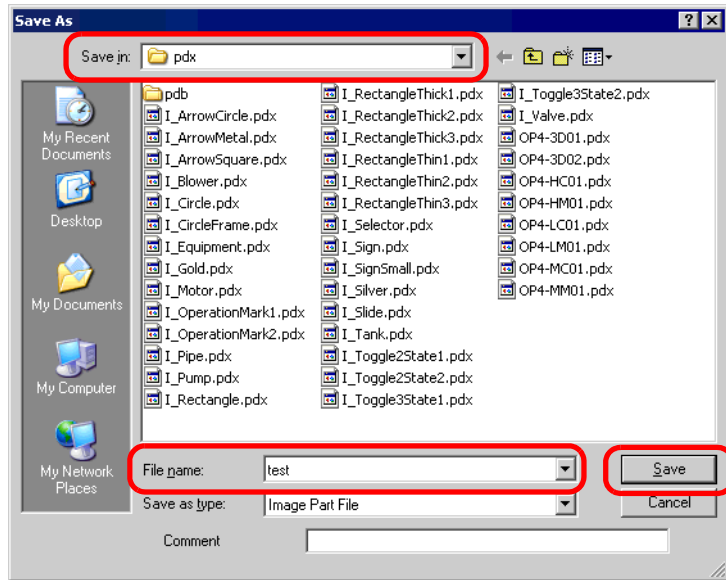
- 1 Double-click the part you want to register a new image for, and the settings dialog box opens. Click [Select Shape].
(e.g.: Switch)



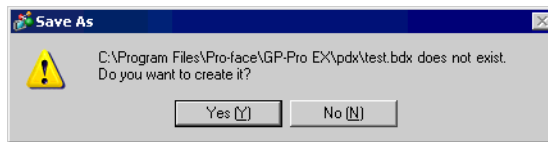
- 2 The [Shape Browser] dialog box opens. Click [New Palette].



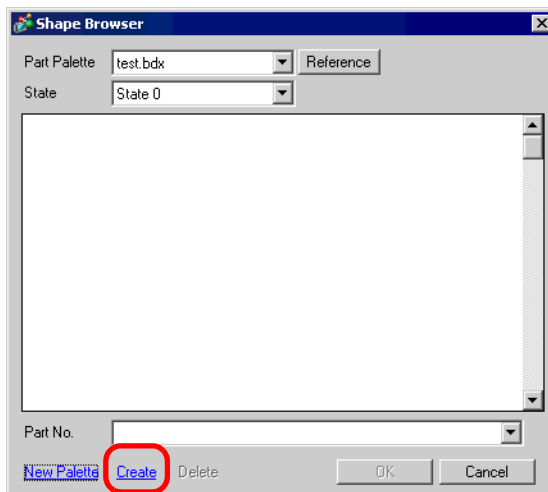
3 The [Save As] dialog box opens. Set the new palette's [Save in] and [File name], and click [Save].



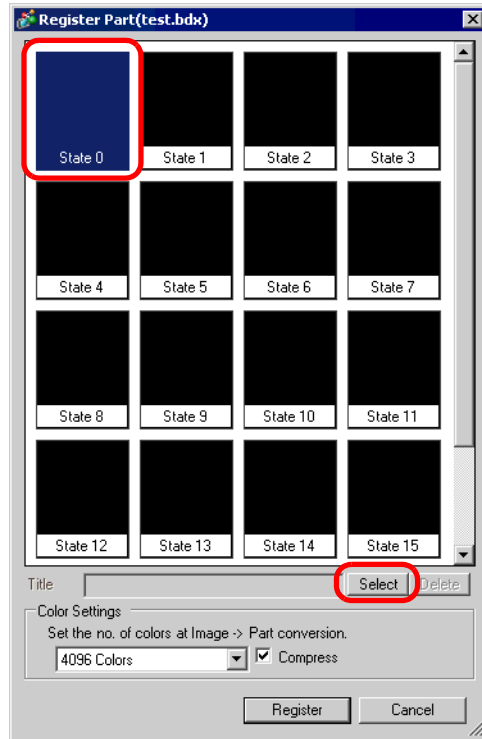
4 When the following message appears, click [Yes (Y)].



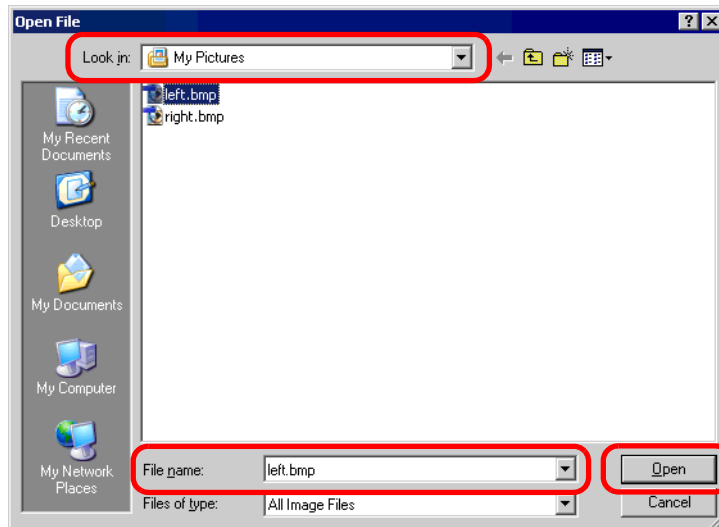
5 The newly registered [Shape Browser] dialog box will appear. Click [Create].



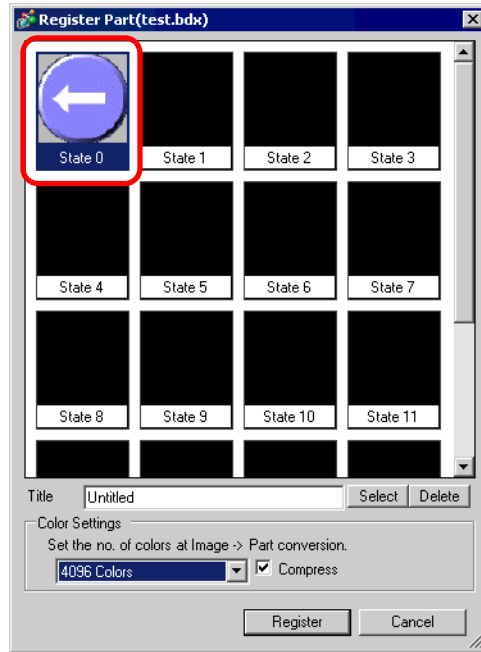
6 The [Register Part] dialog box appears. Select [State 0], and click [Select].



7 When the [Open File] dialog box appears, set the new image's [Look in] and [File name] and click [Open].



8 The image will be registered in the [Register Part] dialog box's [State 0].



9 As needed, in [Title] and [Color Settings], set the part number and number of colors for the image to register, click [Register], and the process is complete.


NOTE

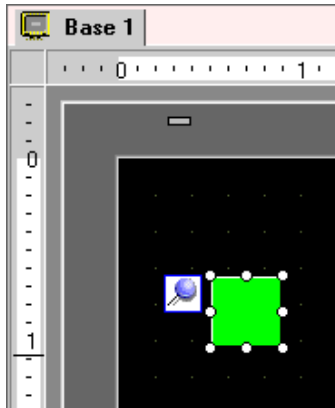
- When calling a registered image to a part, open the part's dialog box and click [Select Shape]. If the [Shape Browser] dialog box appears, select the palette name registered in the [Part Palette]. The registered image will appear. Select it and click [OK].
- If you click "Create" while a previously registered part is selected, you can edit that part image. To create a new image, click the "Create" button while no previously registered part is selected.
- Image parts can be registered with a maximum size of 160 × 160 dots.
- Parts which use registered images are a main cause of large project file sizes. It is recommended you set [Compress] in the [Color Settings].
- You can register up to 200 image parts in a single BDX file.
- Image parts that have been enlarged or reduced may display differently on the GP and in GP-Pro EX.
- When the registered image's size is different depending on the state, the larger image will remain the same, and the smaller image will be enlarged.
- You cannot register or delete a previously-prepared PDX file.
- The types of image file that can be registered to a part are bitmap, JPEG, DPD, and PNG.

9.6.3 Fixing/Releasing Objects

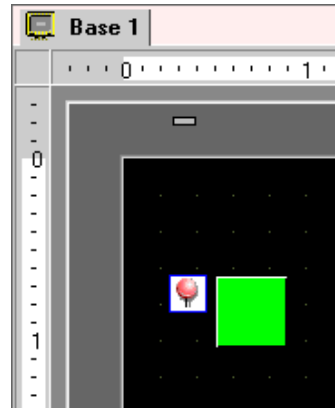
◆ Fixing Objects

Place drawings and parts, and a blue fixed pin  will appear on the top-left of objects on the screen.

Click on the pin and it will turn red ; the object can not be selected or edited. (When you put the cursor over the object, a “lock” mark will appear to its right, indicating that the placement position is fixed.)




Click the blue fixed pin



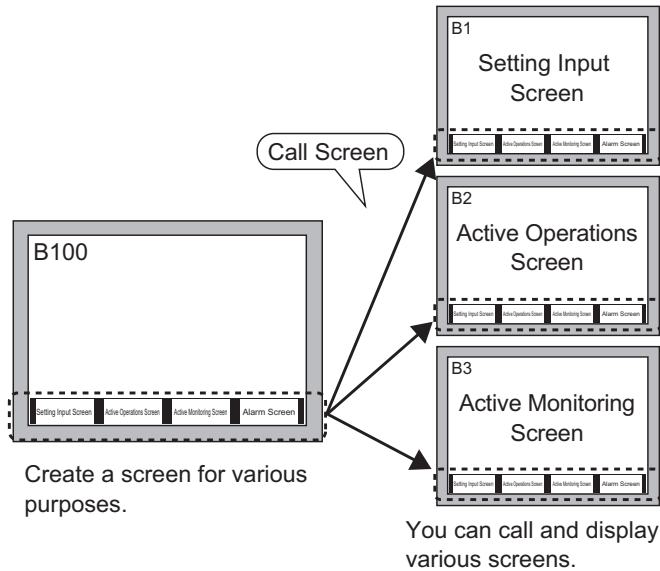
The fixed pin turns red, the part is locked

◆ Releasing Fixed Pins

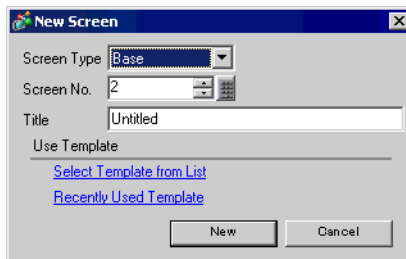
- Releasing an individual object
Double-click a drawing or part, click  and the pin returns to blue.
- Releasing all fixed pins on the screen
Select the [Edit (E)] menu - [Release All Fixed Pins (K)] command.


9.7 Using a Screen for Various Purposes

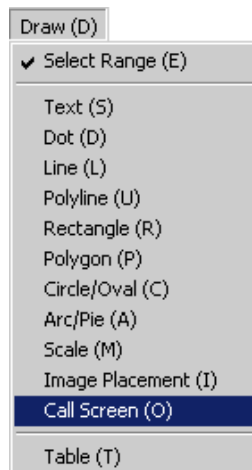
9.7.1 Setup Procedure



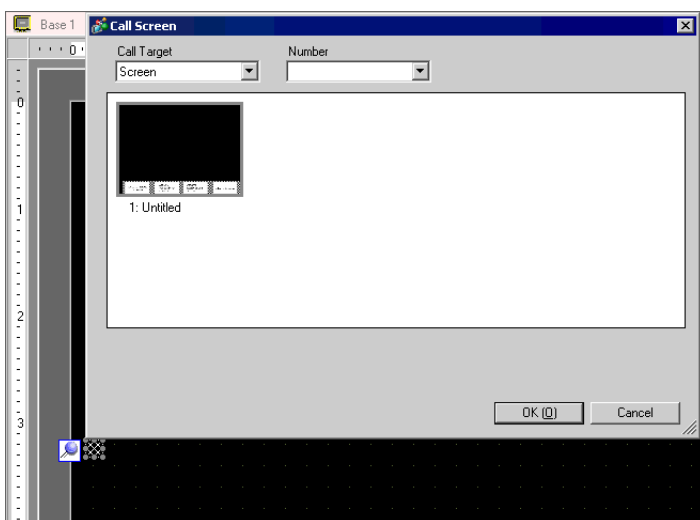
- 1 Select the [Screen (S)] menu - [New Screen (N)] command and the following [New Screen] dialog box is displayed. Click [New] and create a new base screen. (e.g.: Base Screen 2)



- 2 Select the [Draw (D)] menu - [Call Screen (O)] command or click .

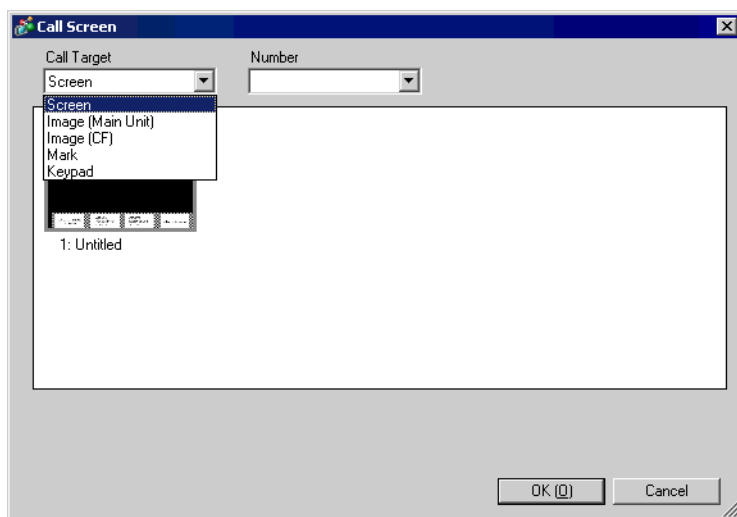


- 3 Drag the mouse on the drawing screen. The dotted border is placed and the [Call Screen] dialog box is displayed.



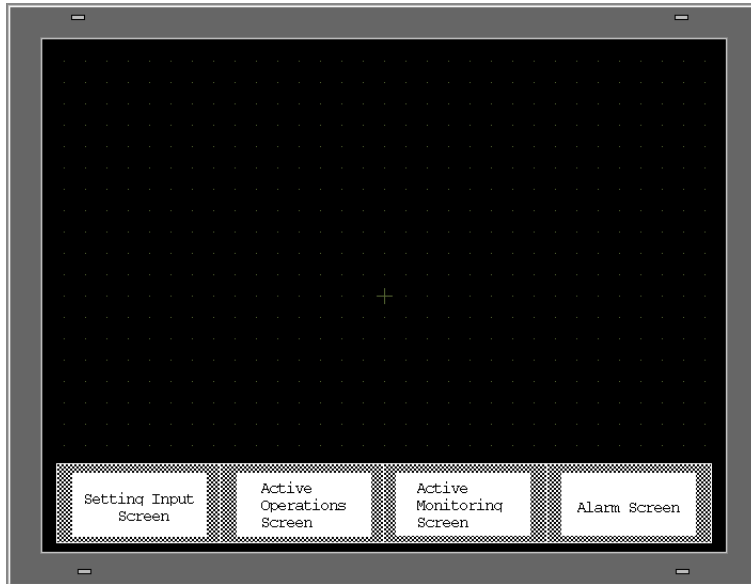
- 4 Select the target image from [Call Target].

- Screen : Previously created base screens are displayed.
- Image (Main Unit) : The image data registered in “Image Registration” is displayed.
- Image (CF) : The CF-card image data registered in “Image Registration” is displayed.
- Mark : The marks registered in “Mark Registration” are displayed.
- Keypad : The keypads registered in “Keypad Registration” are displayed.



NOTE • When you call a [Base Screen], call and place it in the center of the screen.

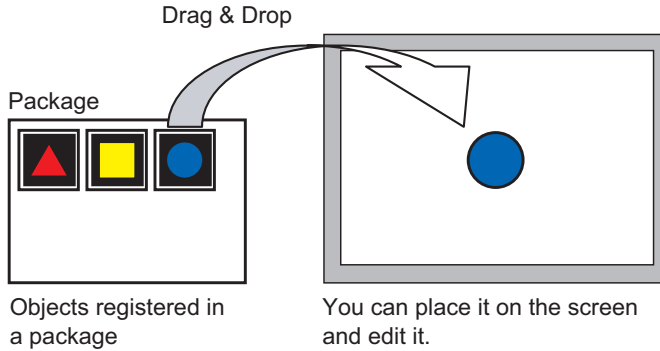
5 Select an image and click [OK] to display the designated image.



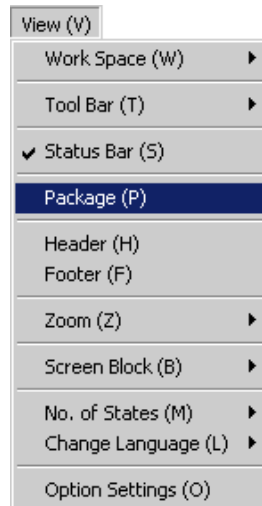
9.8 Editing the Same Picture on Another Screen

9.8.1 Placing a Picture Registered in a Package

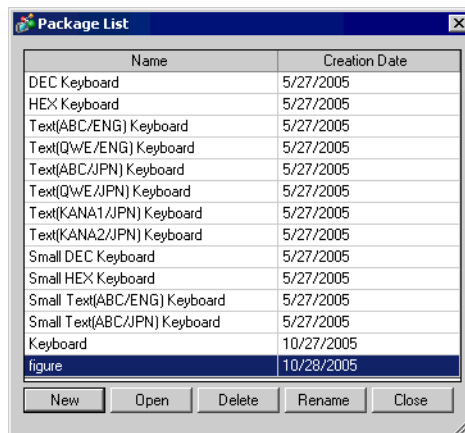
You can place a picture on the screen by dragging a picture registered in a package.



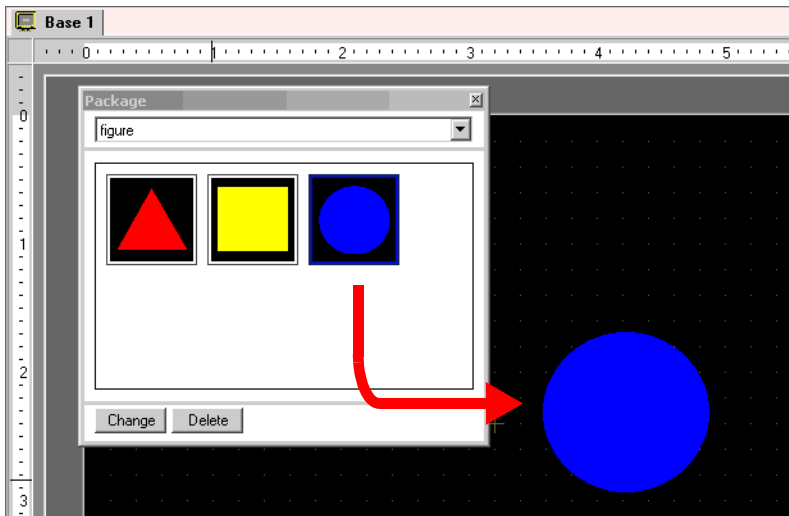
- 1 Display the registered picture list. Click the [View (V)] menu - [Package (P)] command.



- 2 The [Package List] dialog box is displayed. Select the picture to place and click [Open]. (e.g.: figure)




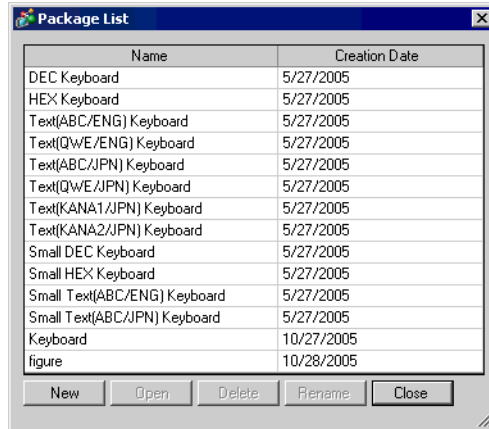
- 3 The [Package] dialog box is displayed. Select a picture and drag it to the drawing screen to place it.



9.8.2 Registering a Created Picture in a Package

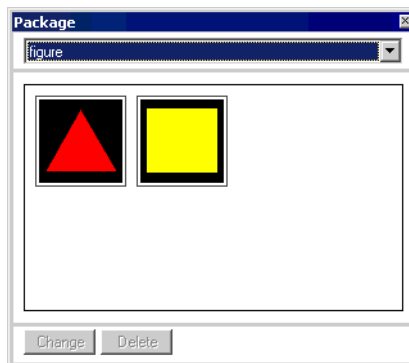
You can register a created object. You can also register a combination of multiple objects.

- 1 Click the [View (V)] menu - [Package (P)] command or click .
- 2 The [Package List] dialog box is displayed. Select a package name and click [Open]. (e.g.: figure)

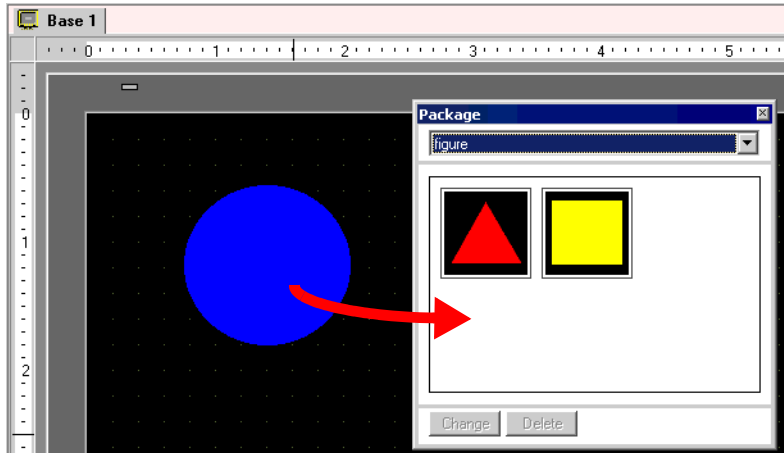


NOTE • To register pictures in a new package, click [New].

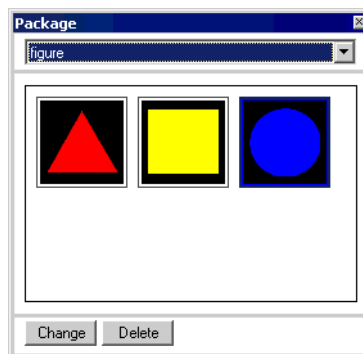
- 3 The [Package] dialog box, which displays a registered package list, is displayed.



4 Select a picture you want to register and drag it to the [Package] dialog box.



5 The pictures have been registered in a package.

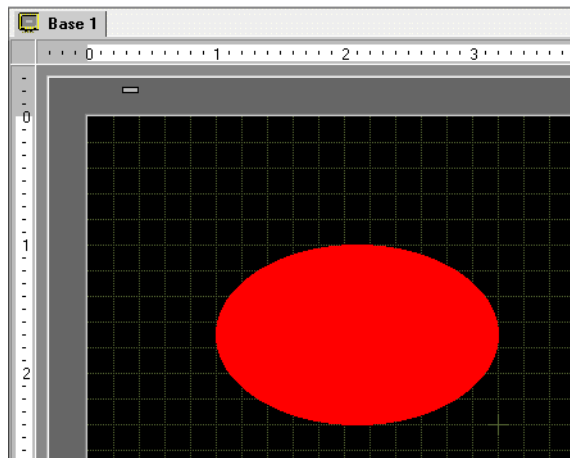


9.9 Creating a Screen from a Template

9.9.1 Grid Settings

■ Details

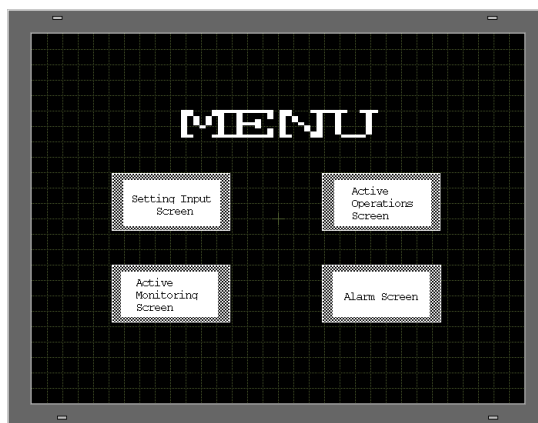
You can display a grid with dots or lines on the drawing screen to place multiple objects. The position of each object is determined according to the grid's intersecting point, which saves you the trouble of fine adjusting the positions.



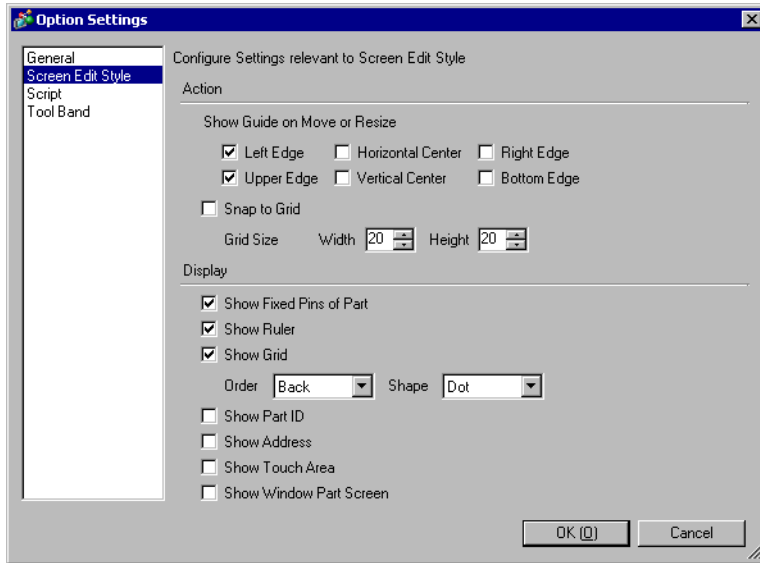
■ Setup Procedure

-
- NOTE** • Please refer to the settings guide for details.
 ☞ “ ■ Settings Guide” (page 9-57)
-

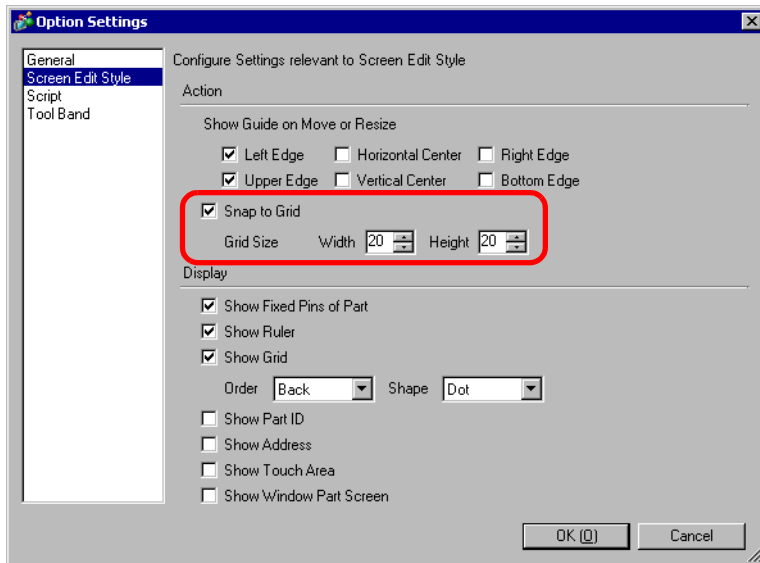
Display a lined grid on the drawing screen and set the environment for placing an object along a line.



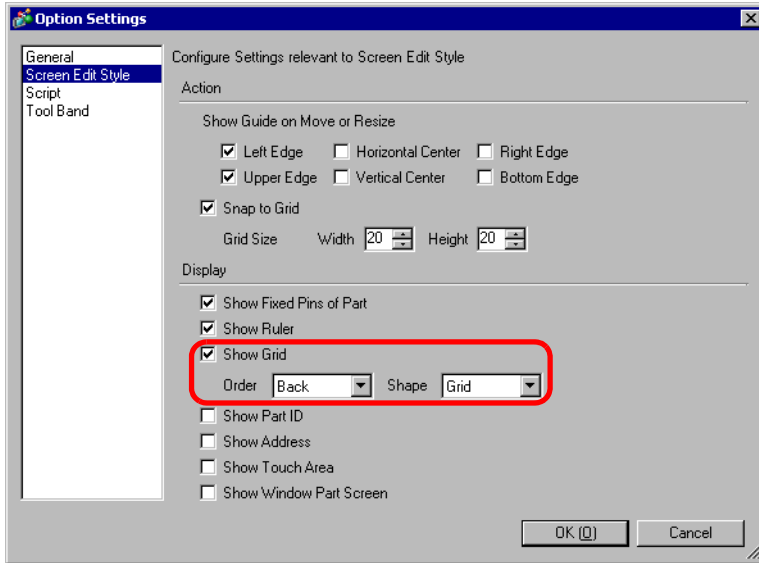
- 1 Click the [View (V)] menu - [Option Settings (O)] command.
- 2 The [Option Settings] dialog box is displayed. Select [Screen Edit Style].



- 3 Set the Action to align objects with intersecting points. Put a check mark next to the [Snap to Grid] box. Set the grid spacing in [Grid Size] (by the dot). (e.g.: [Width] 20, [Height] 20)

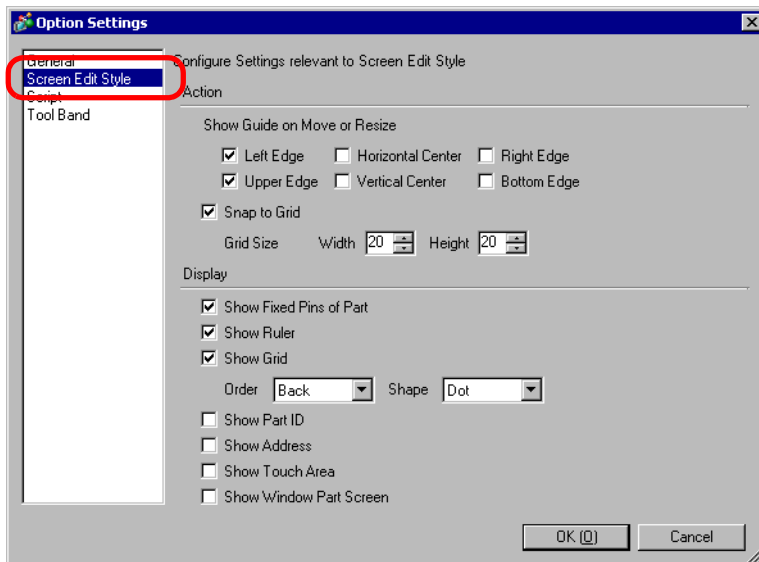


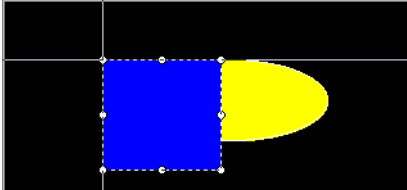

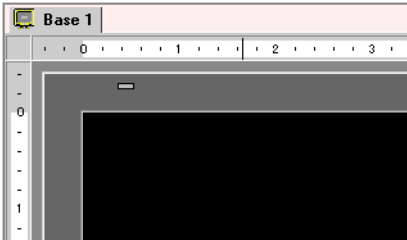
- 4 Configure settings to select dots or lines for a grid on the drawing screen. Put a check mark in the [Show Grid] box. Designate the grid's display order and select [Grid] for the shape. Click [OK]. (e.g.: [Order] Front, [Shape] Grid)



■ Settings Guide

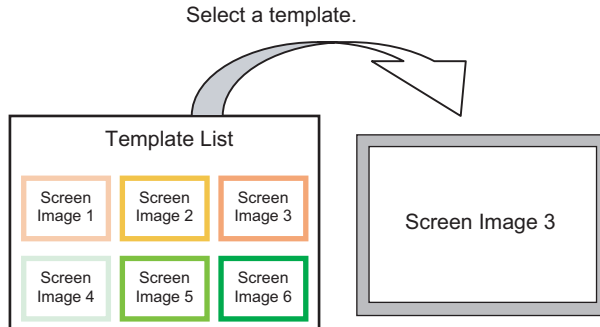
Click the [View (V)] menu - [Option Settings (O)] command to display the following [Option Settings] dialog box. Select [Screen Edit Style] in the left window.



Setting		Description
Action	Show Guide on Move or Resize	<p>This function is valid when aligning an object with a previously placed object. Guidelines are displayed at the designated points (the left edge and upper edge, etc.).</p> 
	Snap to Grid	<p>The cursor position is determined according to the grid size, which saves you the trouble of fine adjusting the cursor. ☞ "9.9 Creating a Screen from a Template" (page 9-55)</p>
	Grid Size	Designate the grid interval by the dot.
Display	Show Fixed Pins of Part	<p>Designate whether or not to show the pin mark when an object is selected.</p>  <p>NOTE</p> <ul style="list-style-type: none"> • If you click the pin mark, the Move and Edit Object functions will be locked and the pin mark will be red.
	Show Ruler	<p>Shows rulers at the top and the left side of the screen.</p> 
	Show Grid	Designate whether or not to show a grid.
	Show Part ID	Designate whether or not to show the part ID number of the placed part.
	Show Address	Designate whether or not to show the address set to the part.
	Show Touch Area	<p>Designate whether or not to show a touch input valid area.</p> <p>IMPORTANT</p> <ul style="list-style-type: none"> • Place each object so that the touch areas do not overlap each other.
	Show Window Part Screen	Designate whether or not to show a window part screen.

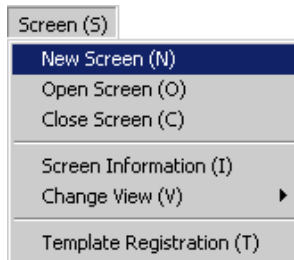
9.9.2 Selecting a Screen from Templates

You can reduce the number of drawing processes by editing in a screen registered in the templates.

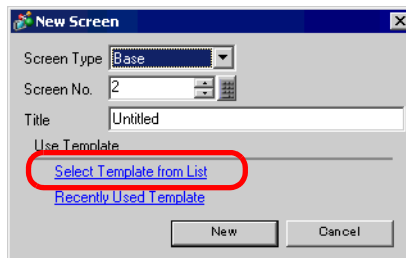


■ Placing a Picture Registered in Templates

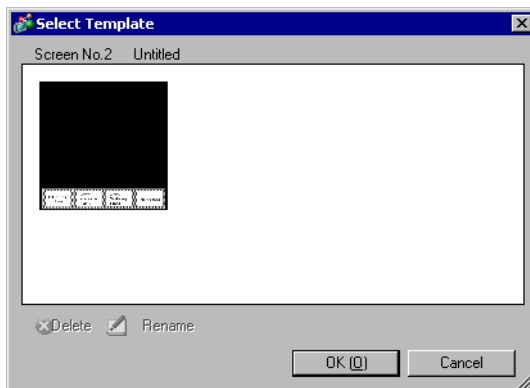
1 Select the [Screen (S)] menu - [New Screen (N)] command.



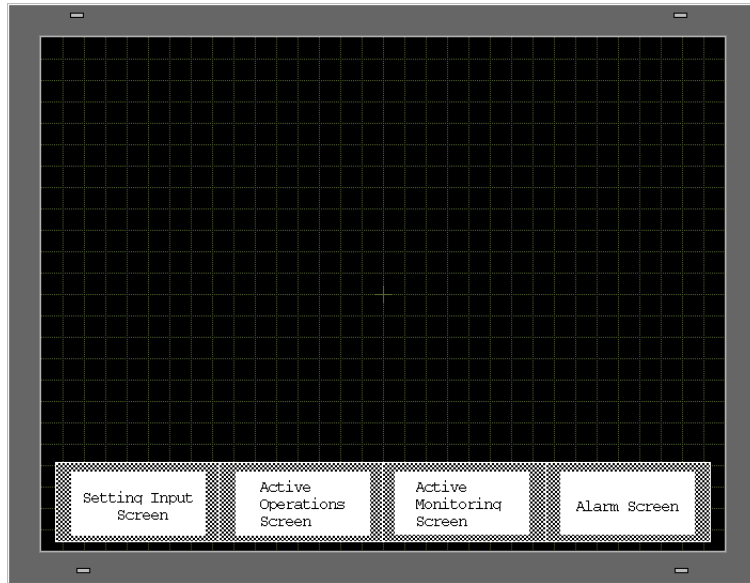
2 The following [New Screen] dialog box is displayed. Click [Select Template from List].



3 The registered templates are displayed. Select a screen you want to use again and click [OK].

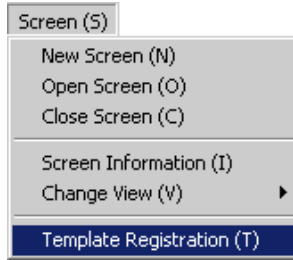


4 The template is placed.



■ Template Registration

You can register created screens as templates and use them again. You can register created screens from the [Screen (S)] menu - [Template Registration (T)] command.



9.10 Pasting an Image

9.10.1 Target Image


Image data that can be displayed on the GP screen is as follows.

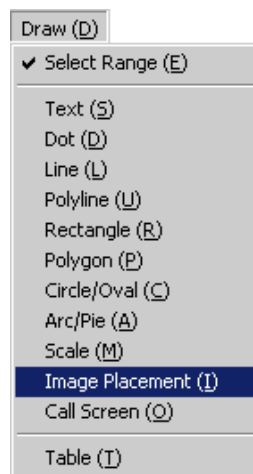
Image	Pasting Method	Description
Bit Map, JPEG, DPD, PNG File	Directly placing an image on the screen	<p>Directly pastes bit map, JPEG, DPD, or PNG on the screen.</p> <p>NOTE</p> <ul style="list-style-type: none"> In using the same image on the multiple screens, you can hold down the screen capacity by registering the original image in “Image”. You can call the base screen with an image already placed onto another base screen. <p>☞ “9.10.2 Bit Map/JPEG Pasting Procedure” (page 9-63)</p>
	Registering an image in “Image (Main Unit)” and using Call Screen	<p>Registers a bit map, JPEG, DPD, or PNG file as the “Image” and displays it on the base screen by using Call Screen.</p> <p>NOTE</p> <ul style="list-style-type: none"> You can hold down the screen capacity by registering an image file in “Image” and using the same image on the multiple screens. <p>☞ “9.7 Using a Screen for Various Purposes” (page 9-48)</p>
	Registering an image in “Image (CF)” and using Call Screen	<p>Calls and displays the image data stored in the CF-Card on the base screen.</p> <p>☞ “9.7 Using a Screen for Various Purposes” (page 9-48)</p>
	Calling the base screen’s image	<p>Calls and displays the base screen’s already created image data on the base screen.</p> <p>☞ “9.7 Using a Screen for Various Purposes” (page 9-48)</p>
Mark	Image registered in “Mark”	<p>Calls and displays the dotted image data registered in “Mark” on the base screen.</p> <p>☞ “9.11 Drawing a Detailed Picture” (page 9-65)</p>
Keypad	Image registered in “Keypad”	<p>Calls and displays the keypad registered in “Keypad” on the base screen.</p> <p>☞ “9.7 Using a Screen for Various Purposes” (page 9-48)</p> <p>NOTE</p> <ul style="list-style-type: none"> You can call one keypad from a [Call Screen] part on a Base Screen.

9.10.2 Bit Map/JPEG Pasting Procedure

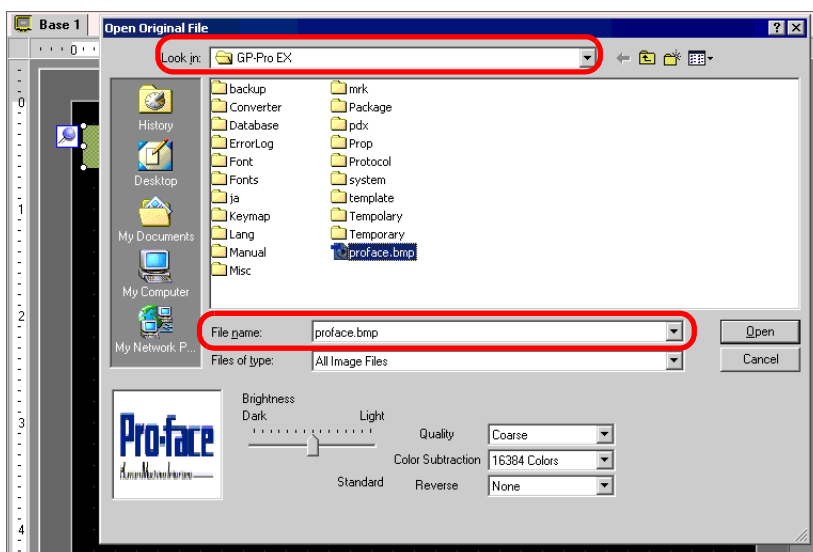
To directly paste the image on the screen:



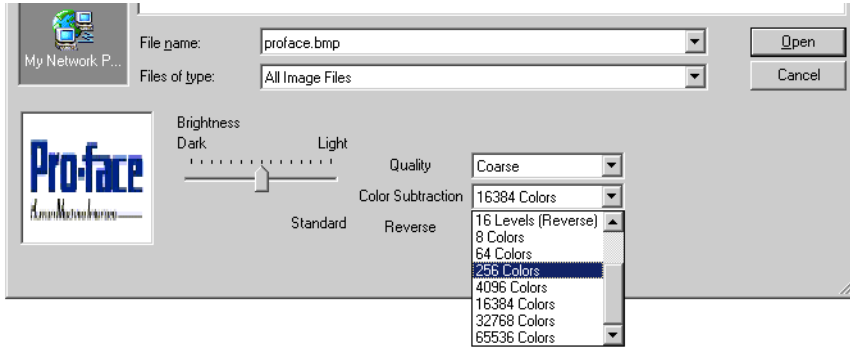
- 1 Select the [Draw (D)] menu - [Image Placement (I)] command, or click the  icon.



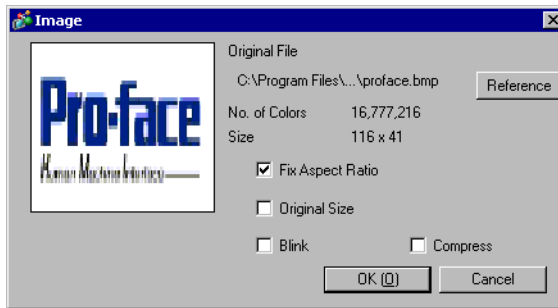
- 2 Move the cursor to the drawing area and the cursor becomes cross shaped. Click the screen and the [Open Original File] dialog box is displayed. Set the [Look in] and [File name] for the image to paste.



3 Adjust the image's quality and number of colors, and click [Open].



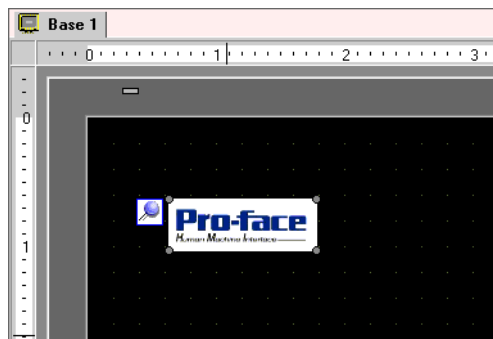
4 The following [Image] dialog box is displayed. Set the size and blink for the image to paste.



NOTE

- When [Original Size] is selected, an image is placed with the same size as the original image. You cannot change the image's size after placing it.
- When [Fix Aspect Ratio] is selected, an image is placed with the original image's horizontal to vertical ratio fixed.

5 Click [OK] and the designated image will be placed.

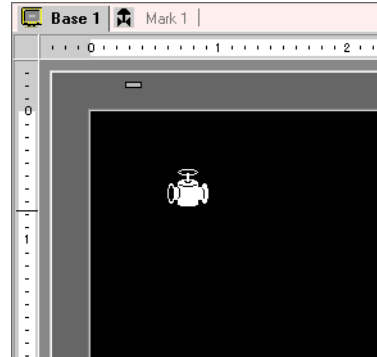
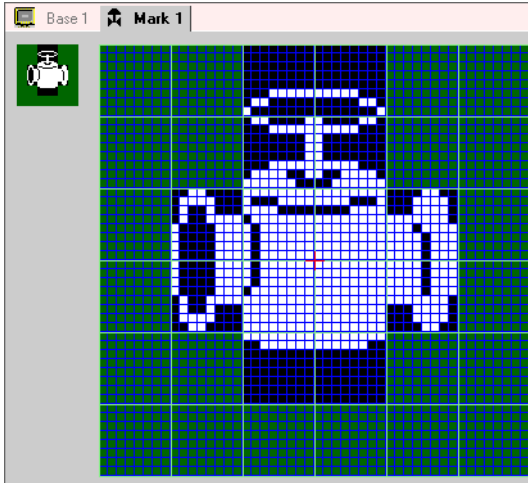


9.11 Drawing a Detailed Picture

9.11.1 Drawing a Valve

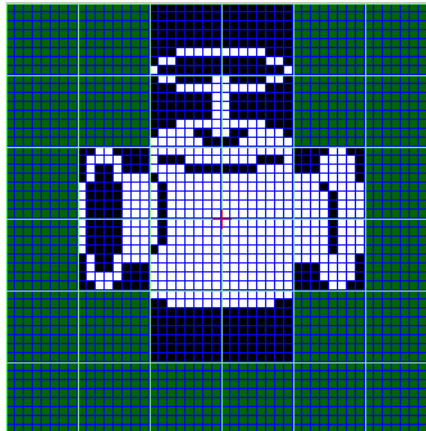
■ Details

You can call and display image data created in Mark on the base screen. In Mark, special marks or pictures can be drawn with dots.

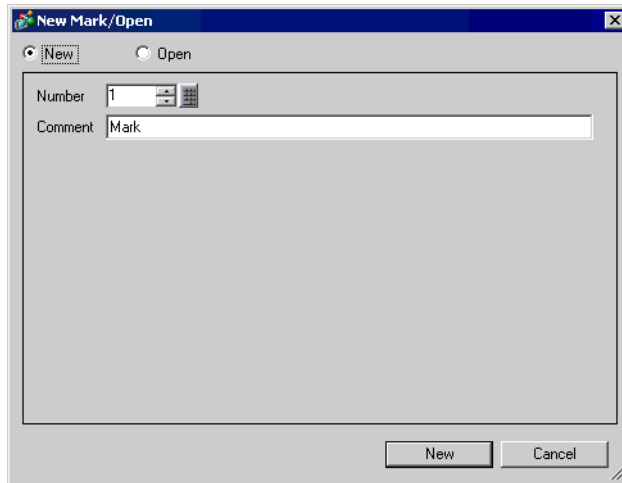


■ Setup Procedure

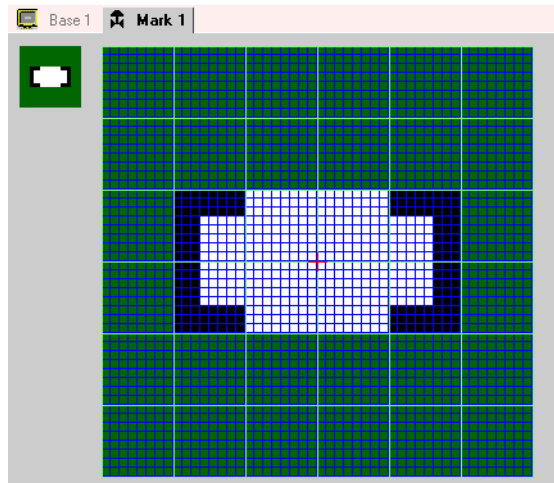
To draw a valve with dots:



- 1 Click the [Common Settings (R)] menu - [Mark Registration (M)] command. Select [New], input [Number] and [Comment], and click [New]. (e.g.: [Number] 1, [Comment] Mark)

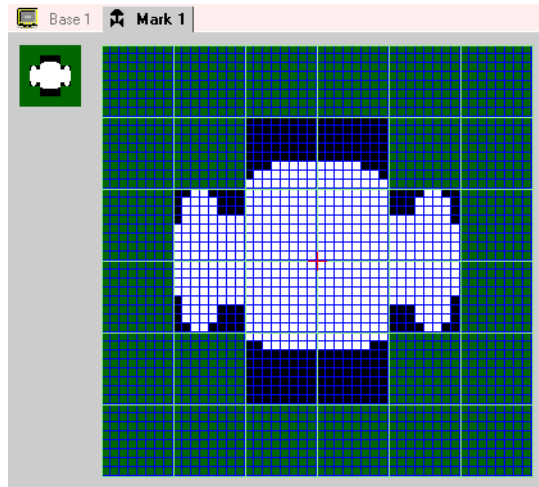


- 2 Create the outline of the valve's main body using a rectangle. Click the [Draw (D)] menu - [Filled Rectangle (T)] command, and drag the mouse to adjust the rectangle's size and position and place it.

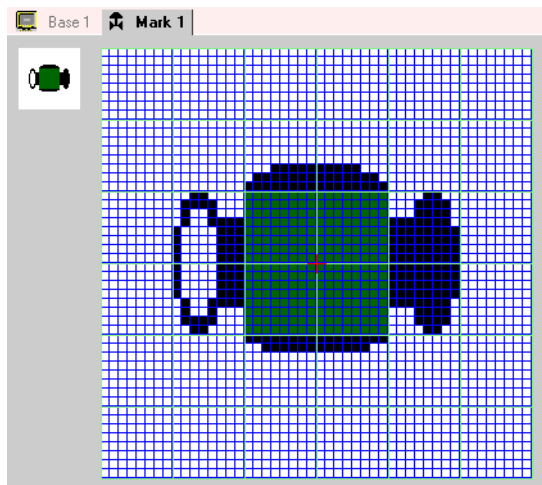


NOTE • You can redo it by clicking the [Edit] menu - [Undo] command.

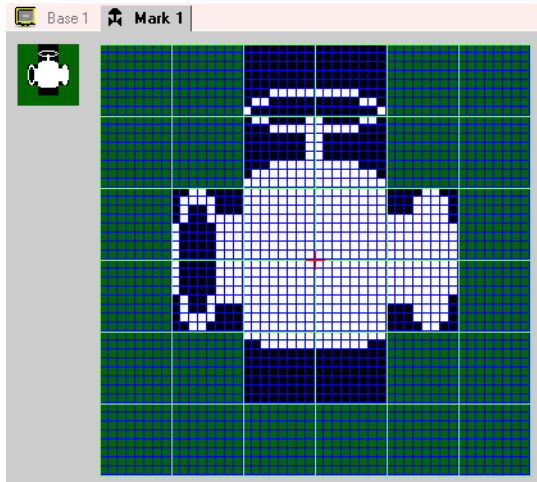
- 3 Create the valve's opening using an oval. Click the [Draw (D)] menu - [Filled Circle/Ellipse (I)] command, and drag the mouse to adjust the oval's size and position and place it.



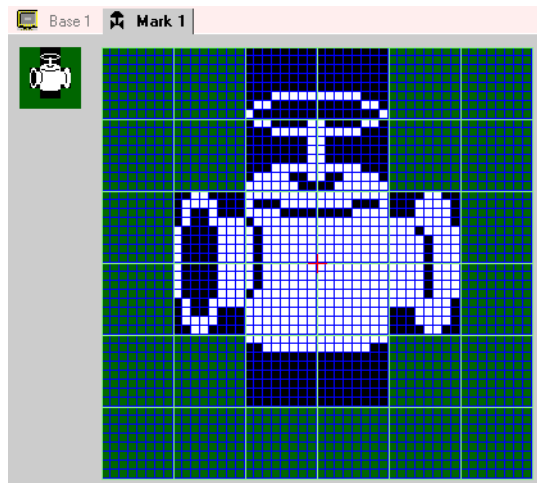
- 4 Create the outline part of the valve's opening using [Color Inversion]. Click the [Edit (E)] menu - [Color Inversion (Y)] command and the dots on the canvas will be inverted. Click the [Draw (D)] menu - [Filled Circle/Ellipse (I)] command in this state, and drag the mouse to adjust the oval's size and position and place it. Click [Color Inversion] again after placing it to return the canvas to its former state.



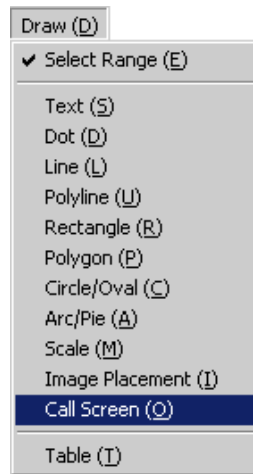
- 5 Create the handle using an oval and rectangle. Click the [Draw (D)] menu - [Circle/Ellipse (I)] or [Filled Rectangle (T)] command, and drag the mouse to adjust the oval or rectangle's size and position and place it.



- 6 Finish creating the valve by fine adjusting each part with dots. Click the [Draw (D)] menu - [Dot (D)] command. Click the dot to turn it ON (white) and right-click the dot to turn it OFF (black).

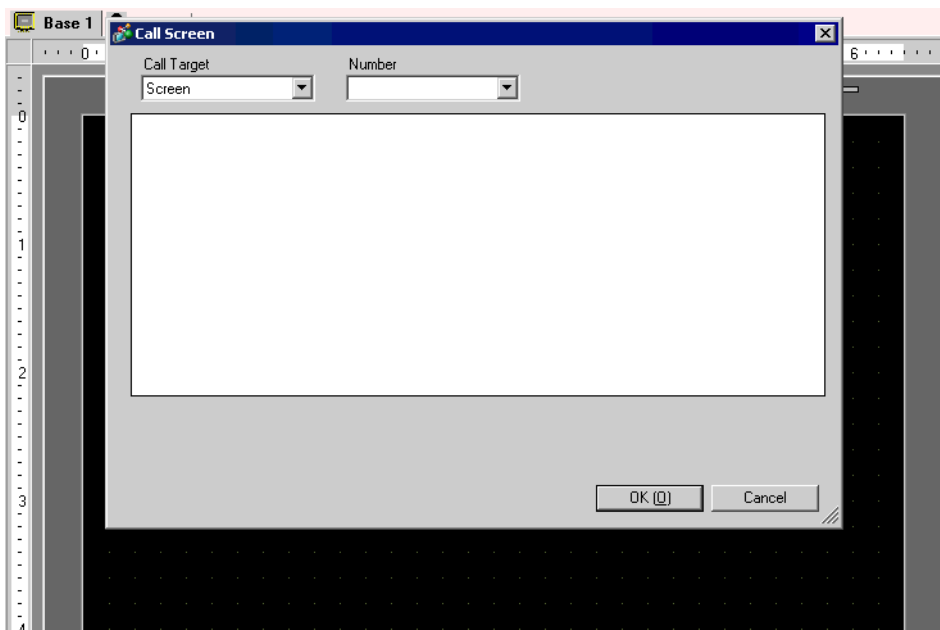


- 7 Click the [Base 1] tab and open a base screen to place the mark. Click the [Draw (D)] menu - [Call Screen (O)] command.

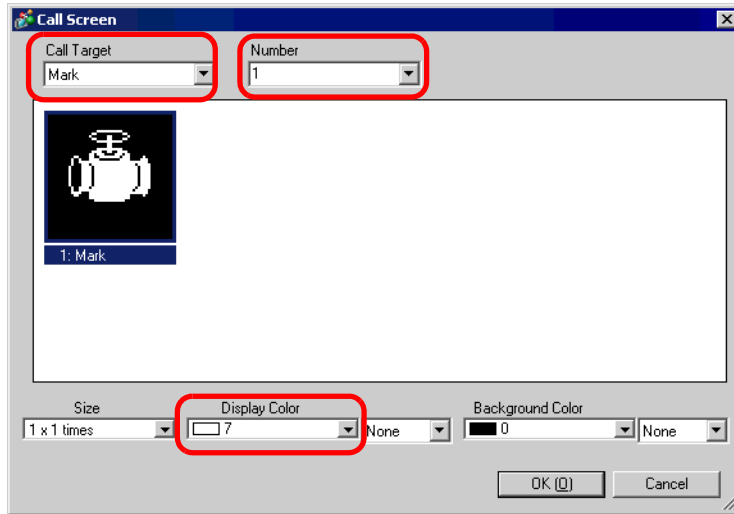


- NOTE** • If you click the [Screen (S)] menu - [New Screen (N)] command, you can create a new base screen.

- 8 Click the drawing screen and the dotted border is placed and the [Call Screen] dialog box is displayed.

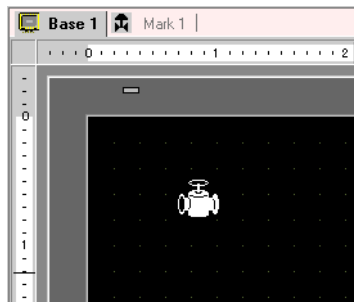


9 Select [Mark] from [Call Target] and select the mark number registered in [Number]. (e.g.: 1)



NOTE • You can designate the created mark's display color.

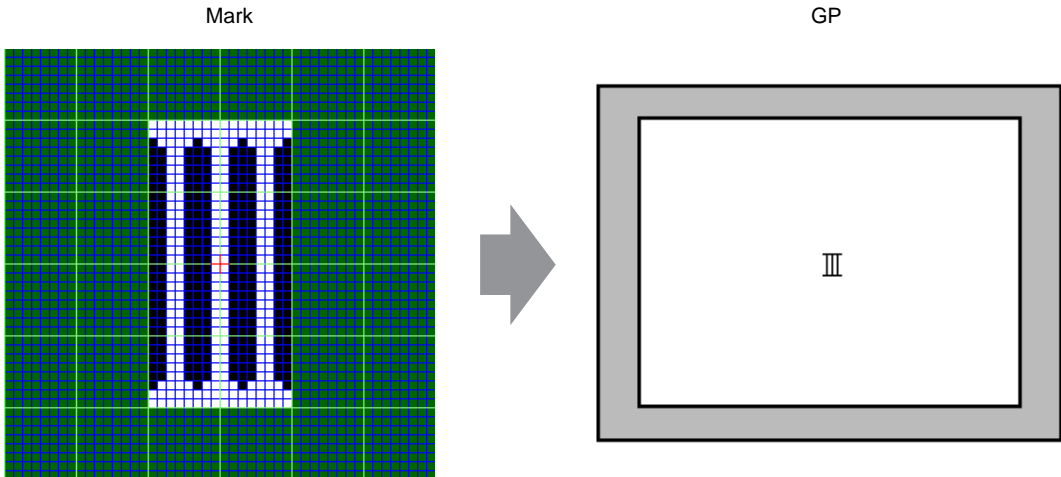
10 Select an image and click [OK] to display the designated image.



9.11.2 Displaying a Character that is not Included in the Character Code

Draw an external character with dots in Mark. You can display registered external characters on the screen.

You can register external characters only when selecting the European standard font (bit map font) and the font size of 8 × 16 dots or larger.



■ Setup Procedure

You can display the created character on the screen by replacing a character in the frame in the character code table with it. The following is the procedure for replacing the character “ë” (89h) in the character code table (Code Page 850) with the character “III”, which was created with dots, and displaying the character “III” on the GP screen.

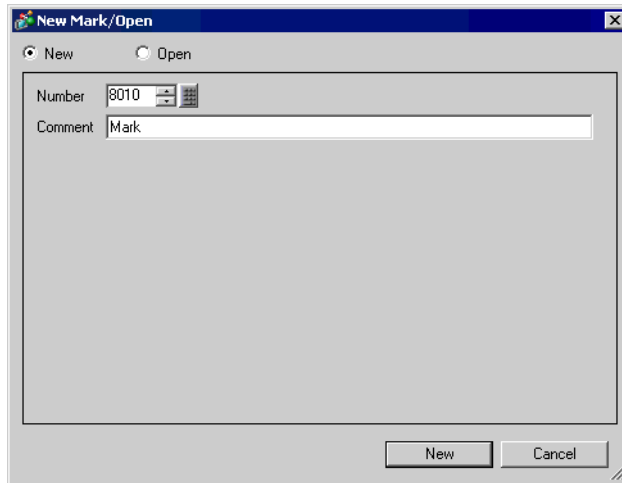
◆ Character Code Table

The following is the character code table of Code Page 850, the character code used on the GP.

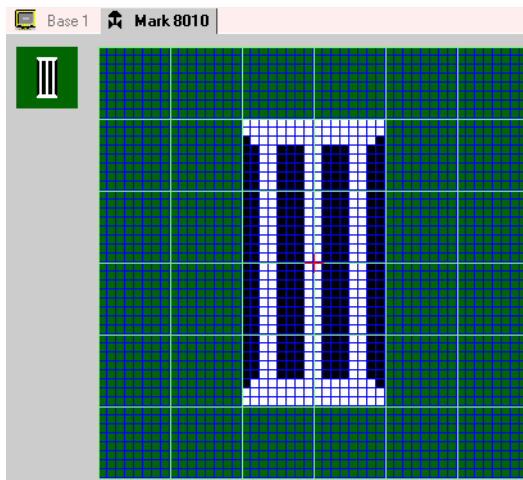
	0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f
0	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2		!	"	#	\$	%	&	'	()	*	+	,	-	.	/
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
6	'	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7	p	q	r	s	t	u	v	w	x	y	z	{		}	~	■
8	Ç	ü	é	â	ä	à	ã	ç	ê	ë	î	ï	ì	í	Ä	Å
9	È	Ë	Æ	ô	ö	ò	û	ÿ	ÿ	ÿ	ÿ	ÿ	ÿ	ÿ	ÿ	f
a	á	í	ó	ú	ñ	Ñ	≡	º	¿	¼	½	¾	¿	«	»	
b	■	■	■		†	‡	§	¶		¶	¶	¶	¶	¶	¶	¶
c	L	⊥	T	†	-	+	ã	ã	ℓ	ℓ	ℓ	ℓ	=	†	∞	
d	δ	⊖	Ê	È	È	'	Í	Î	Ï	J	Γ	■	■	!	ì	■
e	Ó	⊖	Ô	Ò	Õ	Õ	μ	ε	β	Ú	Ú	Ú	Ú	Ú	Ú	'
f	-	±	=	¼	¶	§	÷	·	°	·	·	·	·	·	·	·

89h corresponds to "ë".

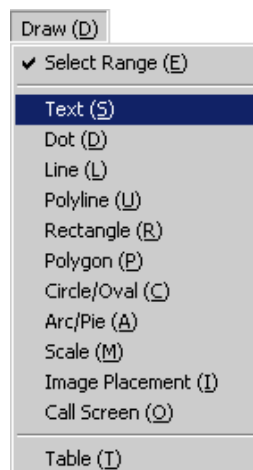
- 1 Click the [Common Settings (R)] menu - [Mark Registration (M)] command. Select [New], input “8010”, the mark number corresponding to the character “ë” (89h) in the text code table, in [Number], and click [New].
☞ “ ■ Input Code Table” (page 9-74)



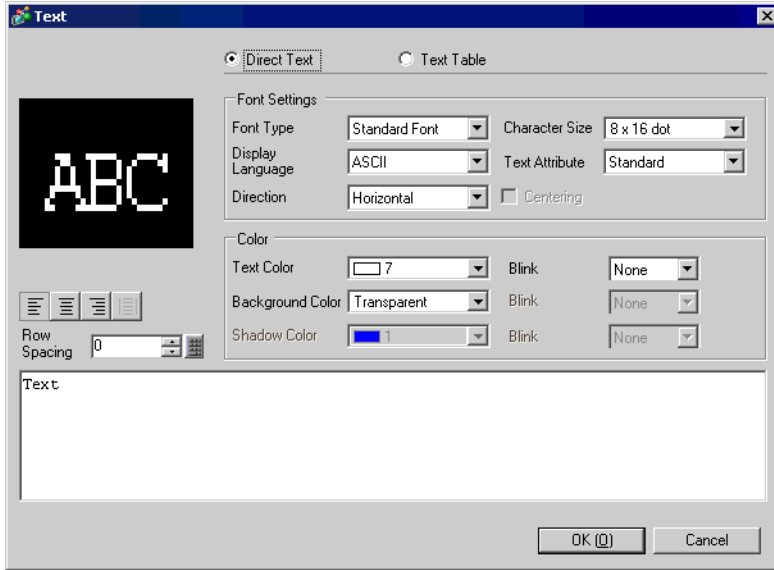
- 2 Draw a special character. Create “III” to display on the screen.



- 3 Click the [Base 1] tab and click the [Draw (D)] menu - [Text (S)] command.

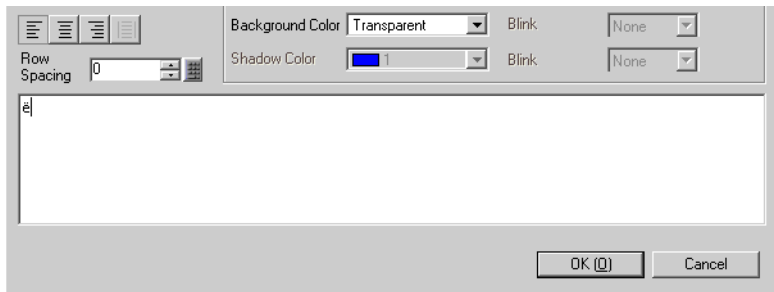


4 Place the text on the screen, and double-click it to open the [Text] dialog box.



5 In the following text input area, input the Input Code “0235”, which corresponds to the text code (89h), while pressing the [Alt] key. “ë” has been inputted. Click [OK].

☞ “ ■ Input Code Table” (page 9-74)



NOTE • The character placed on the drawing screen is “ë”, but on the screen transferred to the GP, “III” is displayed.

■ Details of Displaying a Character that is not Included in the Character Code

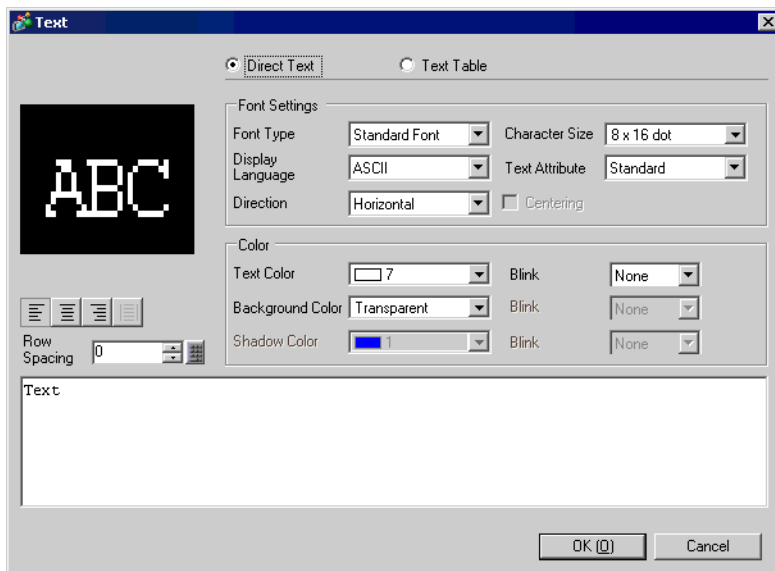
The marks drawn for the mark numbers from 8001 to 8128 are treated as the characters of the character codes from 80h to FFh. For example, 8001 corresponds to 80h, and 8002 to 81h. If you create marks for these mark numbers, they will be registered as external characters. By inputting the input code corresponding to a mark number on the base screen, the character displayed on the base screen is displayed as a registered external character on the GP.

■ Input Code Table

Mark Number	Text Code Code Page 851	Input Code (Alt + Code)	Mark Number	Text Code Code Page 851	Input Code (Alt + Code)	Mark Number	Text Code Code Page 851	Input Code (Alt + Code)
8001	80h	0199	8049	B0h	0130	8097	E0h	0211
8002	81h	0252	8050	B1h	0131	8098	E1h	0223
8003	82h	0233	8051	B2h	0132	8099	E2h	0212
8004	83h	0226	8052	B3h	0133	8100	E3h	0210
8005	84h	0228	8053	B4h	0134	8101	E4h	0245
8006	85h	0224	8054	B5h	0193	8102	E5h	0213
8007	86h	0229	8055	B6h	0194	8103	E6h	0181
8008	87h	0231	8056	B7h	0192	8104	E7h	0254
8009	88h	0234	8057	B8h	0169	8105	E8h	0222
8010	89h	0235	8058	B9h	0135	8106	E9h	0218
8011	8Ah	0232	8059	BAh	0136	8107	EAh	0219
8012	8Bh	0239	8060	BBh	0137	8108	EBh	0217
8013	8Ch	0238	8061	BCh	0138	8109	ECh	0253
8014	8Dh	0236	8062	BDh	0162	8110	EDh	0221
8015	8Eh	0196	8063	BEh	0165	8111	EEh	0175
8016	8Fh	0197	8064	BFh	0139	8112	EFh	0180
8017	90h	0201	8065	C0h	0140	8113	F0h	0173
8018	91h	0230	8066	C1h	0141	8114	F1h	0177
8019	92h	0198	8067	C2h	0142	8115	F2h	0159
8020	93h	0244	8068	C3h	0143	8116	F3h	0190
8021	94h	0246	8069	C4h	0144	8117	F4h	0182
8022	95h	0242	8070	C5h	0145	8118	F5h	0167
8023	96h	0251	8071	C6h	0227	8119	F6h	0215
8024	97h	0249	8072	C7h	0195	8120	F7h	0184
8025	98h	0255	8073	C8h	0146	8121	F8h	0176
8026	99h	0214	8074	C9h	0147	8122	F9h	0168
8027	9Ah	0220	8075	CAh	0148	8123	FAh	0183
8028	9Bh	0248	8076	CBh	0149	8124	FBh	0185
8029	9Ch	0163	8077	CCh	0150	8125	FCh	0179
8030	9Dh	0216	8078	CDh	0151	8126	FDh	0178
8031	9Eh	0128	8079	CEh	0152	8127	FEh	0247
8032	9Fh	0129	8080	CFh	0164	8128	FFh	0160
8033	A0h	0225	8081	D0h	0240			
8034	A1h	0237	8082	D1h	0208			
8035	A2h	0243	8083	D2h	0202			
8036	A3h	0250	8084	D3h	0203			
8037	A4h	0241	8085	D4h	0200			
8038	A5h	0209	8086	D5h	0153			
8039	A6h	0170	8087	D6h	0205			
8040	A7h	0186	8088	D7h	0206			
8041	A8h	0191	8089	D8h	0207			
8042	A9h	0174	8090	D9h	0154			
8043	AAh	0172	8091	DAh	0155			
8044	ABh	0189	8092	DBh	0156			
8045	ACh	0188	8093	DCh	0157			
8046	ADh	0161	8094	DDh	0166			
8047	A Eh	0171	8095	DEh	0204			
8048	AFh	0187	8096	DFh	0158			

9.12 Setting Guide

9.12.1 Text Setting Guide



Setting	Description
Direct Text	Input text into the Input Text window and place it directly as fixed text.
Text Table	Use text registered to Text Table. "15.4 Changing Languages (Multilanguage)" (page 15-15)
Font Type	When [Direct Text] is selected: <ul style="list-style-type: none"> • Standard Font You can select from [ASCII], [Japanese], [Taiwanese], [Chinese] and [Korean] as the bit map font. <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px 0;">IMPORTANT</div> <ul style="list-style-type: none"> • The standard font will become bit map font. The display speed is faster than with other fonts, but characters may have jagged outlines or get out of shape if enlarged/reduced too much. • The Japanese and English standard fonts are transferred to the GP. To use the Taiwanese, Chinese, or Korean standard font, you need to add the font in [System Settings Window/Font Settings]. "4.2 Stroke Font, Standard Font" (page 4-3)

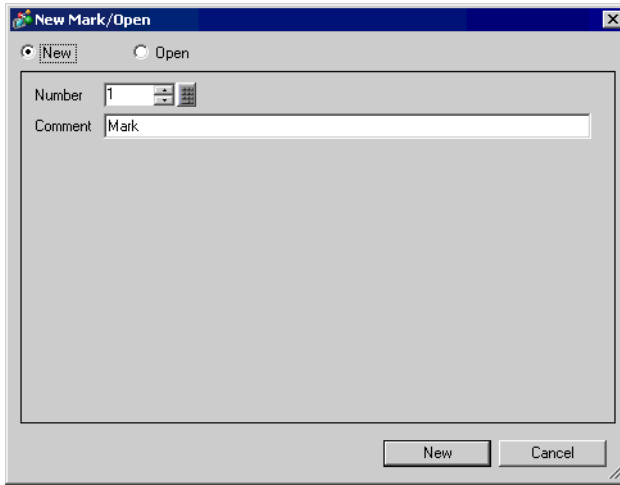
Continued

Setting	Description
Font Type	<ul style="list-style-type: none"> • Stroke Font You can select from [ASCII], [Japanese], [Taiwanese], [Chinese] and [Korean] as the vector font. IMPORTANT • The standard font will become vector font. Characters are displayed with smooth outlines if enlarged, but the display speed is slower than with the standard font. • The English stroke font is transferred to the GP. To use the Japanese, Taiwanese, Chinese, or Korean stroke font, you need to add the font in [System Settings Window/Font Settings]. ☞ “4.2 Stroke Font, Standard Font” (page 4-3) • Image Font Displays a Windows font as bit map data. ☞ “4.3 Image Font” (page 4-12) <p>When [Text Table] is selected: Select between Standard Font and Stroke Font.</p>
Display Language	Select the text display language from [ASCII], [Japanese], [Taiwanese], [Chinese] or [Korean].
Direction	Select from [Vertical] or [Horizontal].
Character Size	<p>Select the character size. Each font type has a different size range.</p> <ul style="list-style-type: none"> • Size Standard Font: 8 × 8 dot standard unit, 1 to 8 times (8 × 8 to 64 × 64 dot) 8 × 16 dot standard unit, 1 to 8 times (8 × 16 to 64 × 128 dot) Stroke Font: 6 to 127 • Fixed Size You can select this option only when the [Standard Font] is selected. Select from [6 × 10 dots], [8 × 13 dots], or [13 × 23 dots]. IMPORTANT • When the [Fixed Size] is “6 × 10 dot”, you cannot select [Bold] for the [Text Attribute].
Text Attribute	<p>Each font type has a different range of styles.</p> <p>Standard Font: Choose from [Standard], [Bold], or [Shadow].</p> <p>Stroke Font: Choose from [Standard], [Bold], or [Outline].</p>
Centering	When selecting “Vertical”, align the center of text with single-byte and two-byte characters.
Text Color	Select a color for the text.
Background Color	Select a background color for the text.
Shadow Color	When the [Font Type] is [Standard Font] and the [Text Attribute] is [Shadow], choose a color for the shadow.
Row Spacing	Set a value from 0 to 255. This is only applicable when the text is multiple lines. This option cannot be used when the [Font Type] is set to [Image Font].

9.12.2 Common Settings (Mark Registration)

■ New

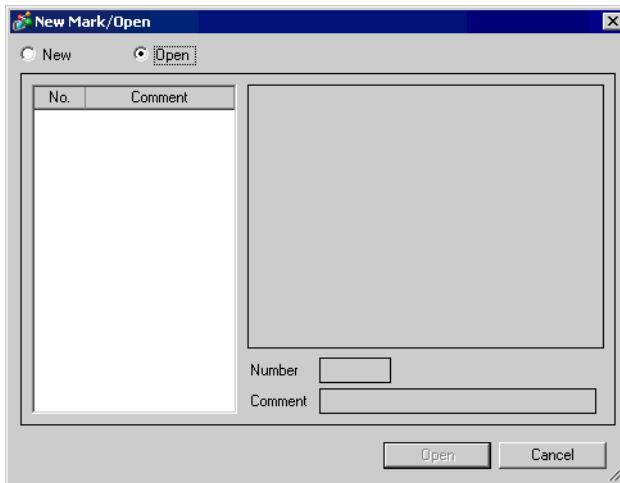
Open the screen to register a mark



Setting	Description
New	Creates a new [Mark Registration] screen.
Open	Opens a previously created [Mark Registration] screen.
Number	Set the [Mark Registration] screen No. to any value between 1 and 8,999.
Comment	Enter a comment of up to 30 characters for the [Mark Registration] screen.

■ Open

Open a previously registered mark screen

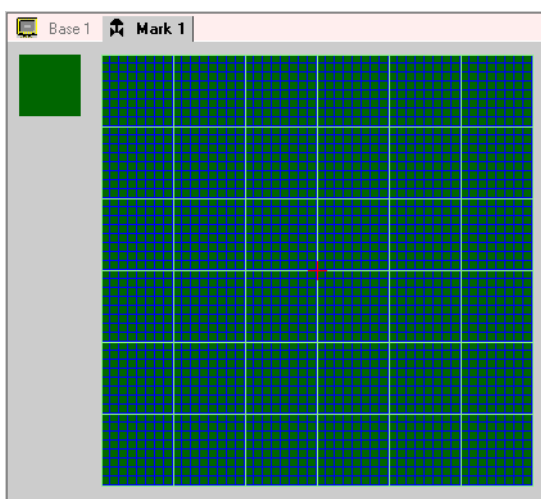


Setting	Description
New	Creates a new [Mark Registration] screen.
Open	Opens a previously created [Mark Registration] screen.

Continued

Setting	Description
List of marks	Displays the list of the [Mark Registration] screens in the project file.
No.	Displays the number of each [Mark Registration] screen.
Comment	Displays the comment for each [Mark Registration] screen.
Mark preview	Provides a preview display of the marks in the [Mark Registration] screen selected in the mark list.
Number	Displays the number of the [Mark Registration] screen selected in the mark list.
Comment	Displays the comment for the [Mark Registration] screen selected in the mark list.

■ Mark Registration



Setting	Description
Preview area	Provides a preview display of the mark's on-screen display size.
Drawing area	<p>Used to draw marks using the drawing operations below, which can be selected from the menu and toolbar.</p> <ul style="list-style-type: none"> • [Dot] • [Line] • [Rectangle] • [Circle/Oval] • [Filled Rectangle] • [Filled Circle/Ellipse] • [Fill] • [Outline] • [Draw Size] <p>The following items are displayed in the drawing area:</p> <ul style="list-style-type: none"> • Origin • 48 × 48 dot grid • Quadrant (8 × 8 dot area) borders • Dot ON, dot OFF (black), dot OFF (transparent)

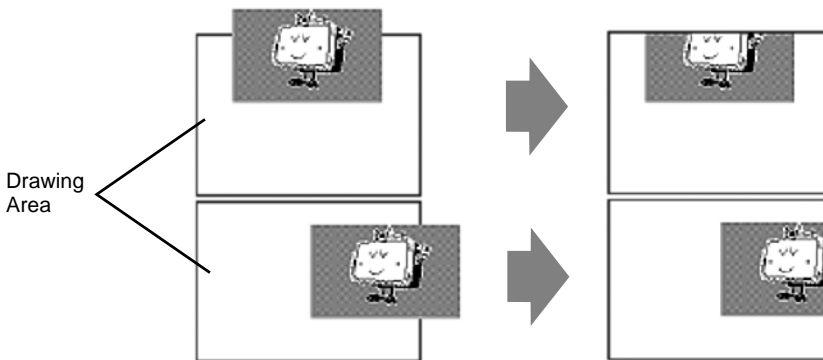
9.13 Restrictions

9.13.1 Restrictions for Drawing (Text)

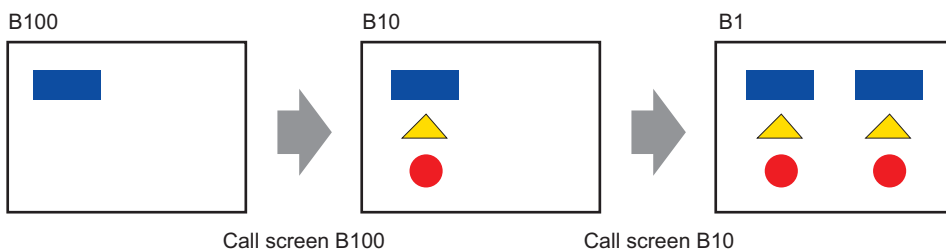
- When text is enlarged or rotated, the thickness of some letters may change.
- For characters with a character code (0x80 to 0xFF), the characters' shape will change due to differences in font between GP-Pro EX and the GP.

9.13.2 Restrictions for Pasting Bit Map/JPEG

- If you set the background color to the screen used for a call screen, the objects placed on the screen are not displayed on the GP.
- For a color data image screen, the data capacity is large, but the display speed on the GP is fast. For a monochrome data image screen, the display speed on the GP is somewhat slow, but the data capacity can be saved. Convert screens depending on the purpose.
- JPEG file pasting is supported only by color models. You can paste a file with up to the resolution size that the GP can display.
- If an image screen is placed beyond the drawing area, the part that is outside the area is not displayed on the GP.



- Up to 10-layer (11-fold) nesting (calling hierarchy) is available. However, if the remaining memory in the PC decreases in operation, the display on the screen may be omitted. When transferred, the nested objects are normally displayed on the GP.
e.g.) Double-layer (threefold) nesting



9.13.3 Restrictions for Package Registration

- Package registration is saved when exiting the GP-Pro EX.
- Up to 200 objects can be registered in one package. To register more than 200 objects, create a new package and register them in a new category.

9.13.4 Restrictions for Mark

- Confirm a registered external character on the GP after the screen data transmission. The character corresponding to the inputted text code is displayed on the GP-Pro EX.
- External characters can be registered only when the English standard font with a font size of 8×16 dot or larger is selected. 8×8 dot is not supported.
- To create an external character, draw it with single-byte characters (within 8×16 dot) with reference to the origin of the mark creating area (0,0).
- Displayed characters may differ between GP-Pro EX and the GP. Confirm a registered external character on the GP after the screen data transmission.
- External characters cannot be rotated.
- When you print text in Alarm, external characters are not outputted. The results depending on printer types are as follows:
For NEC PR201, EPSON ESC/P, HP Laser Jet, and Text ASCII,
Direct code output of the text codes.
For EPSON PM/Stylus,
Image output of Code Page 850 characters
- When registering a mark's external character, when a standard font's character code (0x80 to 0xFF) is used in a CSV file, if you display that character on the AGP with a CSV Display or Transfer CSV Data part, it will change into the external character registered on the Mark Screen.

9.13.5 Restrictions for Screen Display

- When you reduce the screen edit area with the zoom function, some drawings may not display correctly, depending on the magnification.