

## CHAPTER 4

# DESIGNING SCREENS

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## 4.1. Drawing Basic Shapes

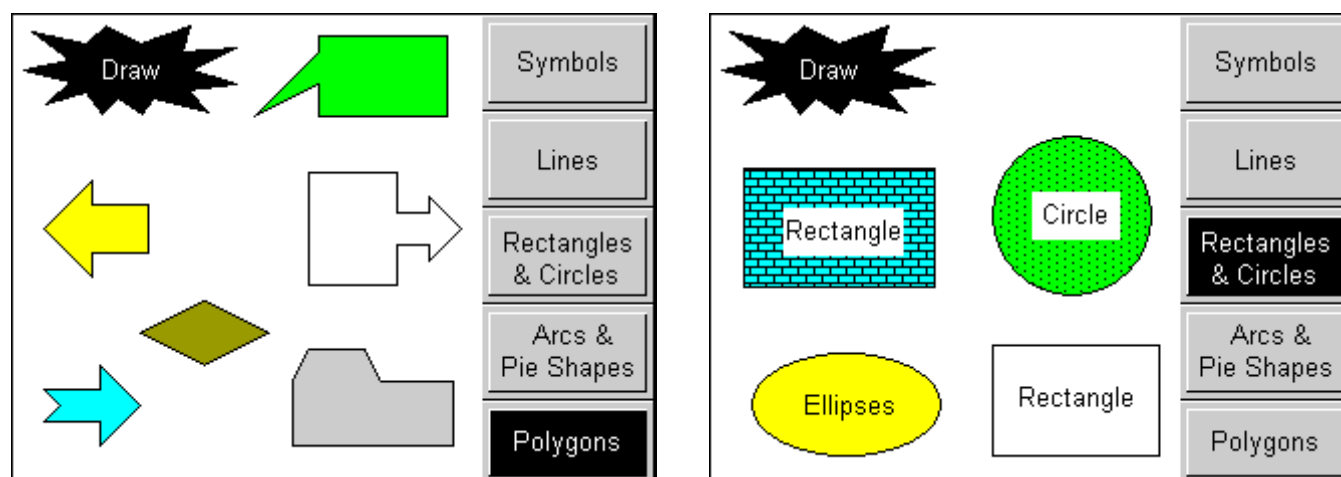
The software provides a drawing tool you can use to create simple or elaborate drawing shapes such as lines, rectangles, circles, arcs etc.

To create a drawing shape, click the shape on the Draw Toolbar (See [Section 1.4.2.3 Draw Toolbar](#) for details), or use the command on the Draw menu (See [Section 1.4.1.5 Draw menu](#) for details). Then, move the mouse to the position you want to place the shape and click the left button. To set up a drawing shape, double-click the shape to bring up the corresponding properties dialog, which can then allow you to set up the color and style of the line/outlined, pattern, FG/BG Color...of the shape.


**Note:** If you don't see the Draw Toolbar pictured below in the lower left corner of the program window, please click the Draw Toolbar command on the View menu.



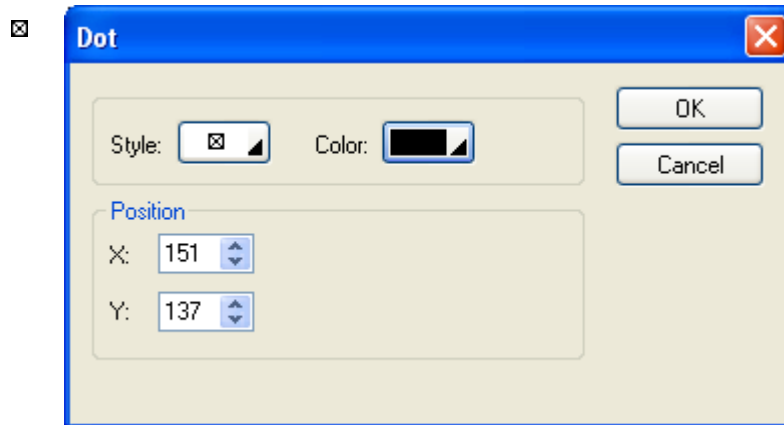
The following is a sample of the basic shapes:



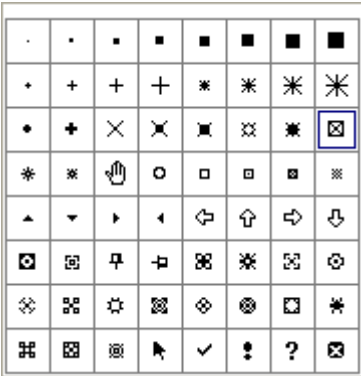
### 4.1.1. Drawing Dots

1. In the Draw menu or Draw toolbar, click **Dot** .
2. Move the cursor onto the screen where you want to draw a dot. A dot with default settings will display and move along with the cursor.
3. Click the desired position on the screen to place the dot. The center of the dot will be at the clicked position.
4. Double-click the dot to bring up the Dot dialog box and then modify the settings of the dot.



The following is an example of the Dot dialog box.






The following table describes each property in the Dot dialog box.

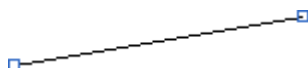
Property		Description
Style		<p>Select one of the dot styles listed below:</p> 
Color		Specifies the dot color.
Position	X	Specifies the X coordinate of the upper-left corner of the dot.
	Y	Specifies the Y coordinate of the upper-left corner of the dot.


5. You can click the following icons in the Draw toolbar to modify the properties of the dot.


Click Icon	To
	Select a style for the dot.
	Select a color for the dot.

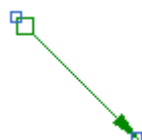
### 4.1.2. Drawing Lines

1. In the Draw menu or Draw toolbar, click Line  to draw a straight line. You can also click **Horizontal Line**  to draw a horizontal line or click **Vertical Line**  to draw a vertical line.
2. Move the cursor onto the screen where you want to draw a line. A line with default settings will display and move along with the cursor.
3. Click the desired position on the screen to place the line. The start point of the line will be at the clicked position.
4. Drag the handle at the start point to adjust the position of the start point. Drag the handle at the end point to adjust the position of the end point.




The picture on the left shows the two handles of a line. Position the mouse pointer over one of the handles. When the cursor changes to , drag the handle until the line has the length and slope you want.


5. Left-click and hold down the mouse button until the cursor becomes a cross icon  to move the line.
6. Double-click the line to bring up the Line dialog box and then modify the settings of the line. The following is a sample of the Line dialog box.





**Line**


Type: ☒ General ☐ Horizontal ☐ Vertical Style: 


Color: ☐ Static ☒ Blink ☐ Controlled By Bit ☐ Blink (Enabled by Bit)

State:   Color: 

☒ Visibility Controlled By Bit Control Bit: \$U1.0  




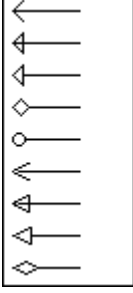
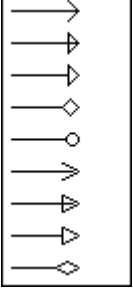


Visible State: ☒ ON ☐ OFF

☒ Start Point Type:  Size: 1



☒ End Point Type:  ☒ Filled Size: 1

Terminal: X1: 28 X2: 88 Y1: 6 Y2: 66


The following table describes each property in the Line dialog box.

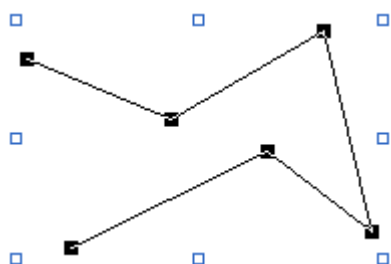
Property		Description
Type		Specifies the type of line: General, Horizontal, or Vertical.
Style		Click the button to select the line style from the dropdown window shown on the right: 
Color	Static	Check this option if the color of the line will not be changed.
	Controlled By Bit	Check this option if the color of the line will be controlled by the specified bit.
	Blink	Check this option so the line will blink. You have to choose the blink effects that change the color of the line from its On state color to Off state color.
	Blink(Enabled by Bit)	Check this option if you want to enable the line blinking by the specified bit.
	State	Select the state that you want to view or define the color for.
	Color	Specifies the line color for the selected state.
	Control Bit	Specifies the bit that controls the color or enables the color blinking. Click  to enter the bit address. Click  to enter the bit tag.
Start / End Point	Start/End Point	Select this option if you want the line to have a shape at the start/end point.
	Type	Click the dropdown list to select the type for Start/End Point <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Start Point Type:</p>  </div> <div style="text-align: center;"> <p>End Point Type:</p>  </div> </div>
	Filled	Select this option if you want the shape to be filled with the line color.
	Size	Specifies the shape size.
Visibility Control	Visibility Controlled By Bit	Check this option if the line will be shown or hidden by the specified bit.
	Control Bit	Specifies the bit that shows or hides the object. Click  to enter the bit address. Click  to enter the bit tag.
	Visible State	Specifies the state (On or Off) that makes the line visible.
Terminal	X1	The X coordinate of the start point.
	Y1	The Y coordinate of the start point.
	X2	The X coordinate of the end point.
	Y2	The Y coordinate of the end point.





7. You can click the following icons in the Draw toolbar to modify the properties of the line.

Click Icon	To
	Select a style for the line.
	Select a color for the line.

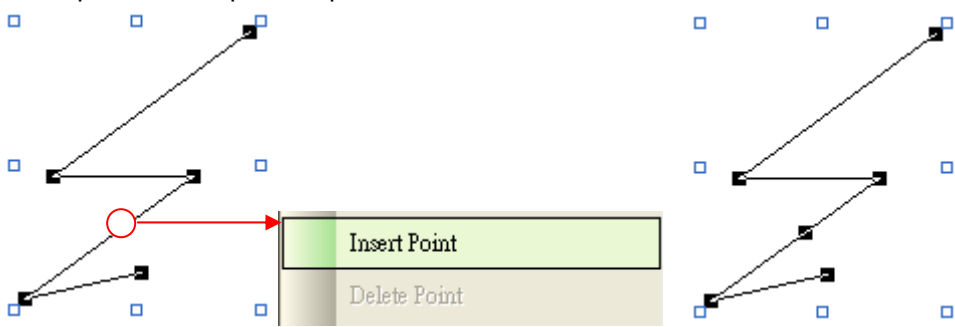
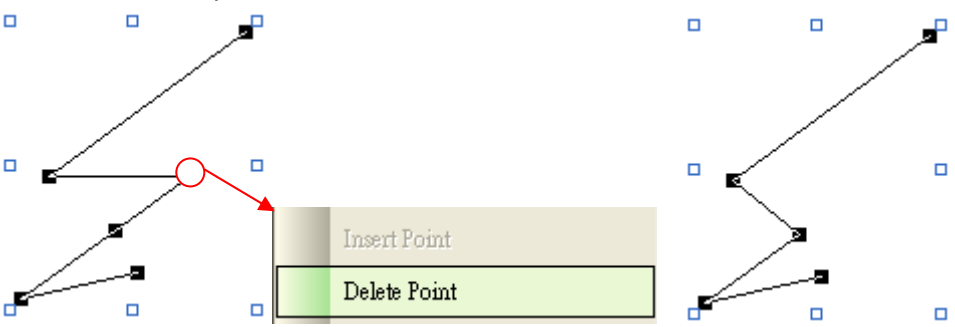
### 4.1.3. Drawing Polylines

1. In the Draw menu or Draw toolbar, click **Polyline**  to draw a polyline.
2. Move the cursor onto the screen where you want to draw a polyline, and click the position where you want the start point of the polyline to be at.
3. Continue clicking on the screen to place as many points needed for nodes in the polyline.
4. Right-click to place the last point for the polyline and complete the polyline.
5. Drag one blue handle of the polyline at a time to resize the polyline.
6. Drag one black handle of the polyline at a time to adjust the node positions of the polyline.



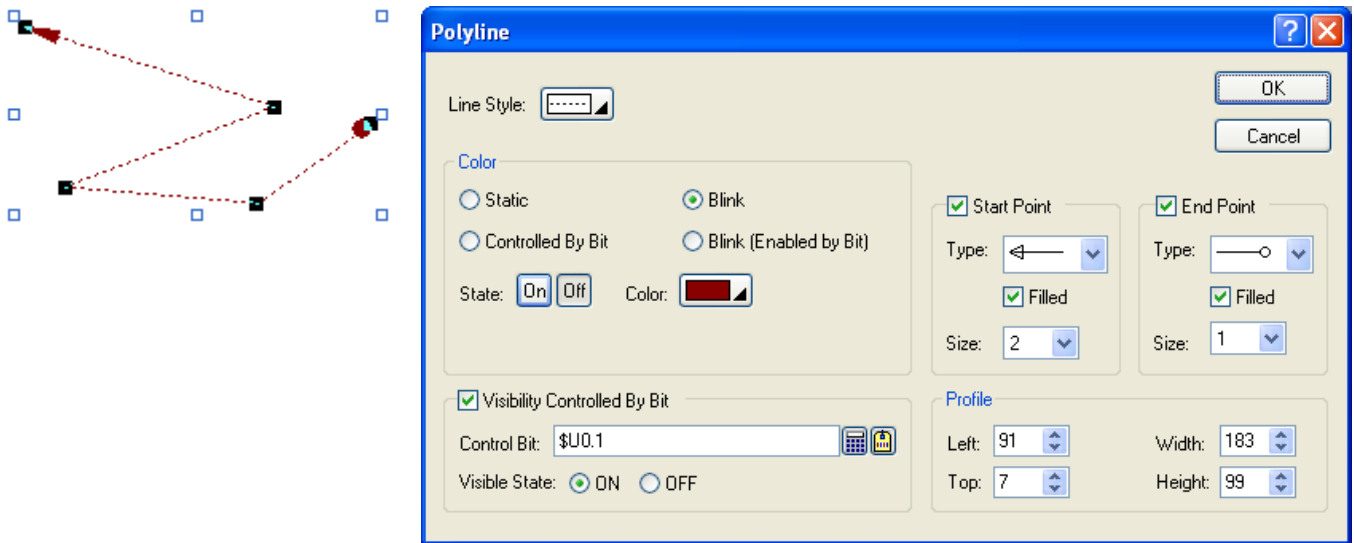
The picture on the left shows all the blue and black handles of a polyline. Position the mouse pointer over one of the handles. When the cursor changes to  or  or  or , drag the handle until the polyline is the shape and size you want.

7. Right-click anywhere on the polyline and use the Insert Point command on the object pop-up menu to insert a new point for the polyline. Or right-click the existing point of the polyline and use the Delete Point command on the object pop-up menu to delete the point.

Pop-up menu	Description
Insert Point	<p>Add a point at the specified position.</p> 
Delete Point	<p>Delete a selected point.</p> 

8. Double-click the polyline to bring up the Polyline dialog box and then modify the settings of the polyline.

The following is a sample of the Polyline dialog box.





The following table describes each property in the Polyline dialog box.



Property		Description
Line Style		Specifies the style of the polyline.
Color	Static	Check this option if the color of the polyline will not be changed.
	Controlled By Bit	Check this option if the color of the polyline will be controlled by the specified bit.
	Blink	Check this option so the polyline will blink. You have to choose the blink effects that change the color of the polyline from its On state color to Off state color.
	Blink(Enabled by Bit)	Check this option if you want to enable the polyline blinking by the specified bit.
	State	Select the state that you want to view or define the color for.
	Color	Specifies the line color for the selected state.
	Control Bit	Specifies the bit that controls the color or enables the color blinking. Click  to enter the bit address. Click  to enter the bit tag.
Start Point	Start Point	Select this option if you want the polyline to have a shape at the start point.
	Type	Specifies the shape type.
	Filled	Select this option if you want the shape to be filled with the line color.
	Size	Specifies the shape size.
End Point	End Point	Select this option if you want the polyline to have a shape at the end point.
	Type	Specifies the shape type.
	Filled	Select this option if you want the shape to be filled with the line color.
	Size	Specifies the shape size.

Continued






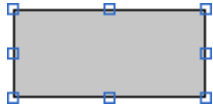
Property		Description
Visibility Control	Visibility Controlled By Bit	Check this option if the polyline will be shown or hidden by the specified bit.
	Control Bit	Specifies the bit that shows or hides the polyline. Click  to enter the bit address. Click  to enter the bit tag.
	Visible State	Specifies the state (On or Off) that makes the line visible.
Profile	Left	The X coordinate of the upper-left corner of the bounding rectangle of the polyline.
	Top	The Y coordinate of the upper-left corner of the bounding rectangle of the polyline.
	Width	The width of the bounding rectangle of the polyline.
	Height	The height of the bounding rectangle of the polyline.





9. You can click the following icons in the Draw toolbar to modify the properties of the polyline.

Click Icon	To
	Select a style for the polyline.
	Select a color for the polyline.

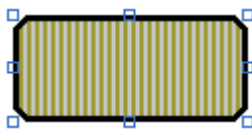
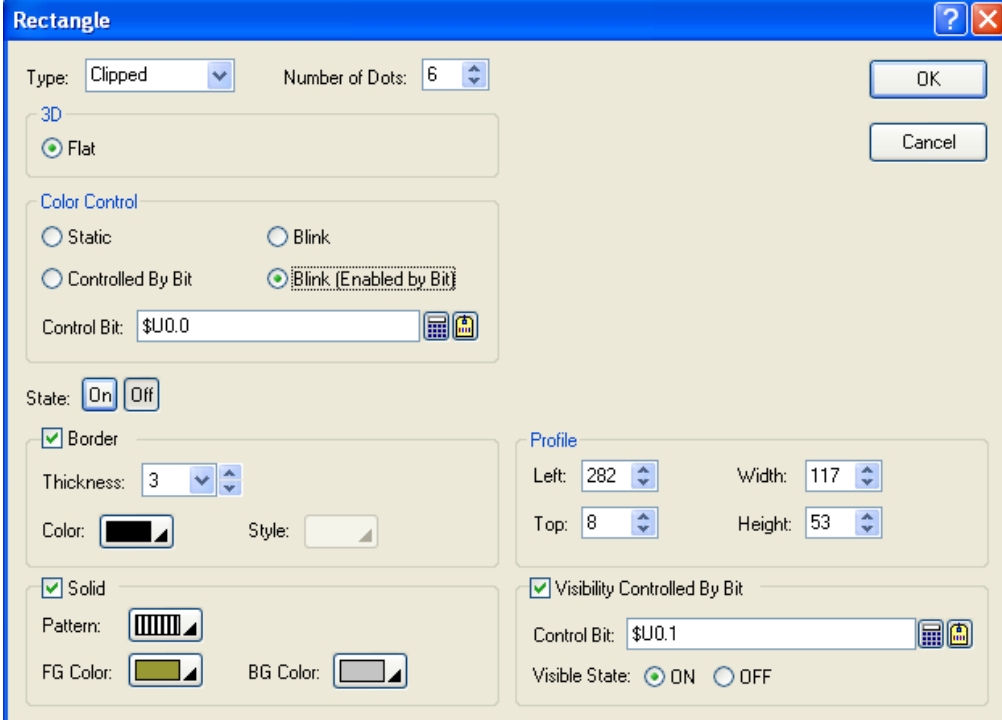
#### 4.1.4. Drawing Rectangles

1. In the Draw menu or Draw toolbar, click **Rectangle**  to draw a normal rectangle. You can also click **Round Rectangle**  to draw a round rectangle or click **Clipped Rectangle**  to draw a clipped rectangle.
2. Move the cursor onto the screen where you want to draw a rectangle. A rectangle with default settings will display and move along with the cursor.
3. Click the desired position on the screen to place the rectangle. The upper-left corner of the rectangle will be at the clicked position.
4. Drag one handle of the rectangle at a time to resize the rectangle.






The picture on the left shows the eight handles of a rectangle. Position the mouse pointer over one of the handles. When the cursor changes to  or  or  or , drag the handle until the rectangle is the shape and size you want.

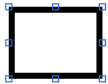
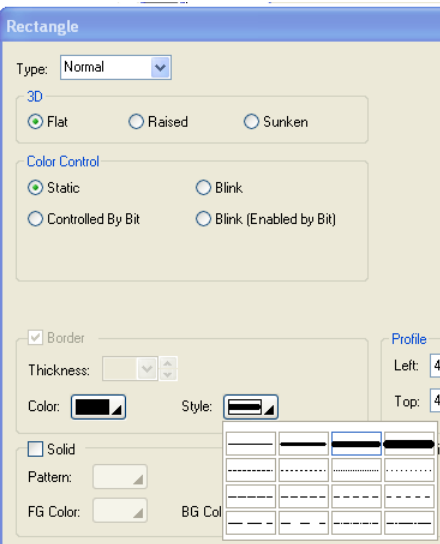

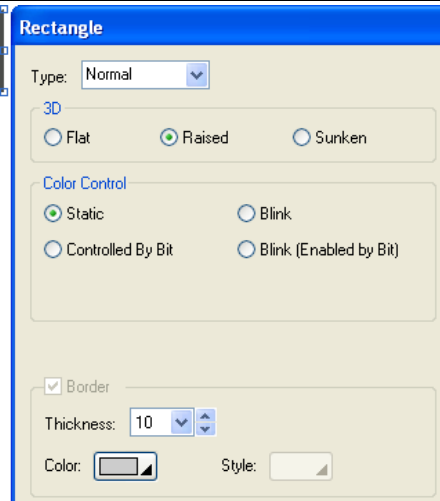

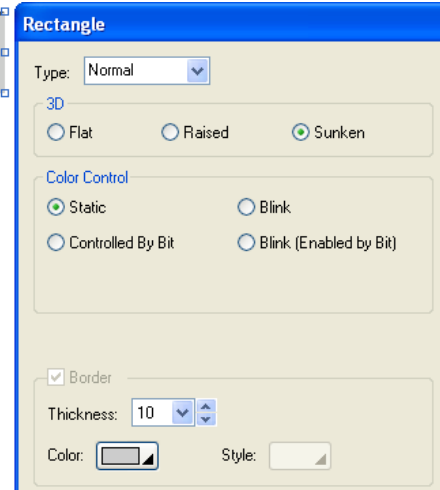
5. Double-click the rectangle to bring up the Rectangle dialog box and then modify the settings of the rectangle. The following is a sample of the Rectangle dialog box.





The following table describes each property in the Rectangle dialog box.

Property	Description		
Type	Specifies the type of the rectangle. There are three types: Normal, Round, or Clipped.		
	<b>Normal</b>	<b>Round</b>	<b>Clipped</b>
			






Continued

Property	Description		
Number of Dots	Specifies the size of the clipped corners if the rectangle is a clipped rectangle. Specifies the radius of the round corners if the rectangle is a round rectangle.		
3D	Specifies the 3D visual effect for the rectangle. There are three effects: Flat, Raised, or Sunken.		
	<b>Effects</b>	<b>Samples</b>	<b>Description</b>
	Flat	 	<p>You can specify the Color and Style for the Border if it is selected.</p> <p>Thickness field is not available when flat is selected.</p>
	Raised	 	<p>You can specify the color for the top and left edges. The software will darken the specified color and draw in the bottom and right edges for you.</p> <p>Border and Style field is not available when Raised is selected.</p>
	Sunken	 	<p>You can specify the color for the bottom and right edges. The software will darken the specified color and draw in the top and left edges for you.</p> <p>Border and Style field is not available when Sunken is selected.</p>





Continued

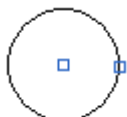
Property		Description
Color Control	Static	Check this option if the color of the rectangle will not be changed.
	Controlled By Bit	Check this option if the color of the rectangle will be controlled by the specified bit.
	Blink	Check this option so the rectangle will blink. You have to choose the blink effects that change the color of the rectangle from its On state Border and Solid option settings to Off state Border and Solid option settings.
	Blink(Enabled by Bit)	Check this option if you want to enable the rectangle blinking by the specified bit.
	Control Bit	Specifies the bit that controls the color or enables the blinking. Click  to enter the bit address. Click  to enter the bit tag.
State		Select the state that you want to view or define the colors for.
Border	Border	Check this option if you want the rectangle to have a border.
	Thickness	Specifies the thickness of the border.
	Color	Specifies the border color for the selected state.
	Style	Select a line style for the border.
Solid	Solid	Check this option if you want the rectangle to be solid. A solid rectangle is filled with the specified pattern and colors. This field is available when Border is selected.
	Pattern	Specifies the fill pattern for the selected state.
	FG Color	Specifies the color for the selected state that will be used for painting the black part of the fill pattern.
	BG Color	Specifies the color for the selected state that will be used for painting the white part of the fill pattern.
Profile	Left	The X coordinate of the upper-left corner of the rectangle.
	Top	The Y coordinate of the upper-left corner of the rectangle.
	Width	The width of the rectangle.
	Height	The height of the rectangle.
Visibility Control	Visibility Controlled By Bit	Check this option if the rectangle will be shown or hidden by the specified bit.
	Control Bit	Specifies the bit that shows or hides the rectangle. Click  to enter the bit address. Click  to enter the bit tag.
	Visible State	Specifies the state (On or Off) that makes the rectangle visible.

6. You can click the following icons in the Draw toolbar to modify the properties of the rectangle.

Click Icon	To
	Select a line style for the border.
	Select a color for the border.
	Select a color for painting the white part of the fill pattern.
	Select a pattern for the fill pattern.
	Select a color for painting the black part of the fill pattern.

### 4.1.5. Drawing Circles

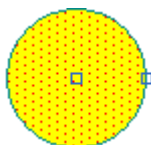
1. In the Draw menu or Draw toolbar, click **Circle**  to draw a circle.
2. Move the cursor onto the screen where you want to draw a circle. A circle with default settings will display and move along with the cursor.
3. Click the desired position on the screen to place the circle. The center of the circle will be at the clicked position.
4. Position the mouse pointer over the handle on the edge of the circle. When the cursor changes to  or , drag the handle until the circle is the size you want.
5. Position the mouse pointer over the handle on the center of the circle. When the cursor changes to , left-click the center and hold down the button to move the circle.



The picture on the left shows the two handles of a circle.

6. Double-click the circle to bring up the Circle dialog box to modify the settings of the circle.



The following is a sample of the Circle dialog box.



Circle


Color Control

☐ Static
 ☐ Blink
 ☒ Blink (Enabled by Bit)


Control Bit: \$U0.0
 




State:

☒ Outlined
 

Color: 


☒ Solid
 


Pattern: 

FG Color: 
 BG Color: 


Center & Radius


X: 38
 







Y: 78
 







Radius: 35
 





☒ Visibility Controlled By Bit
 

Control Bit: \$U0.1
 


Visible State: ☒ ON ☐ OFF





OK

Cancel





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The following table describes each property in the Circle dialog box.

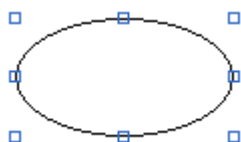
Property		Description
Color Control	Static	Check this option if the color of the circle will not be changed.
	Controlled By Bit	Check this option if the color of the circle will be controlled by the specified bit.
	Blink	Check this option so the circle will blink. You have to choose the blink effects that change the color of the circle from its On state Outlined and Solid option settings to Off state Outlined and Solid option settings.
	Blink(Enabled by Bit)	Check this option if you want to enable the rectangle blinking by the specified bit.
	Control Bit	Specifies the bit that controls the color or enables the blinking. Click  to enter the bit address. Click  to enter the bit tag.
State		Select the state that you want to view or define the colors for.
Outline	Outlined	Check this option if you want the circle to be outlined.
	Color	Specifies the outline color for the selected state.
Solid	Solid	Check this option if you want the circle to be solid. A solid circle is filled with the specified pattern and colors.
	Pattern	Specifies the fill pattern for the selected state.
	FG Color	Specifies the color for the selected state that will be used for painting the black part of the fill pattern.
	BG Color	Specifies the color for the selected state that will be used for painting the white part of the fill pattern.
Center & Radius	X	The X coordinate of the center of the circle.
	Y	The Y coordinate of the center of the circle.
	Radius	The radius of the circle.
Visibility Control	Visibility Controlled By Bit	Check this option if the circle will be shown or hidden by the specified bit.
	Control Bit	Specifies the bit that shows or hides the circle. Click  to enter the bit address. Click  to enter the bit tag.
	Visible State	Specifies the state (On or Off) that makes the circle visible.





7. You can click the following icons in the Draw toolbar to modify the properties of the circle.

Click Icon	To
	Select a color for the outline.
	Select a color for painting the white part of the fill pattern.
	Select a pattern for the fill pattern.
	Select a color for painting the black part of the fill pattern.

### 4.1.6. Drawing Ellipses

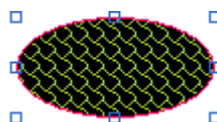
1. In the Draw menu or Draw toolbar, click **Ellipse**  to draw an ellipse.
2. Move the cursor onto the screen where you want to draw an ellipse. An ellipse with default settings will display and move along with the cursor.
3. Click the desired position on the screen to place the ellipse. The upper-left corner of the bounding rectangle of the ellipse will be at the clicked position.
4. Drag one handle of the ellipse at a time to resize the ellipse.



The picture on the left shows the eight handles of an ellipse. Position the mouse pointer over one of the handles. When the cursor changes to  or  or  or , drag the handle until the rectangle is the shape and size you want.

5. Double-click the ellipse to bring up the Ellipse dialog box and then modify the settings of the ellipse.

The following is a sample of the Ellipse dialog box.



?

✕

Ellipse

Color Control

☐ Static
 ☐ Blink
 ☒ Blink (Enabled by Bit)

Control Bit:

State:

☒ Outlined
 

Color:

☒ Solid
 

Pattern:

FG Color:

BG Color:

Profile

Left:  Width:

Top:  Height:

☒ Visibility Controlled By Bit
 





Control Bit:

Visible State: ☒ ON ☐ OFF





OK

Cancel

The following table describes each property in the Ellipse dialog box.


Property		Description
Color Control	Static	Check this option if the color of the ellipse will not be changed.
	Controlled By Bit	Check this option if the color of the ellipse will be controlled by the specified bit.
	Blink	Check this option so the ellipse will blink. You have to choose the blink effects that change the color of the ellipse from its On state Outlined and Solid option settings to Off state Outlined and Solid option settings.
	Blink(Enabled by Bit)	Check this option if you want to enable the ellipse blinking by the specified bit.
	Control Bit	Specifies the bit that controls the color or enables the blinking. Click  to enter the bit address. Click  to enter the bit tag.
State		Select the state that you want to view or define the colors for.
Outline	Outlined	Check this option if you want the ellipse to be outlined.
	Color	Specifies the outline color for the selected state.
Solid	Solid	Check this option if you want the ellipse to be solid. A solid ellipse is filled with the specified pattern and colors.
	Pattern	Specifies the fill pattern for the selected state.
	FG Color	Specifies the color for the selected state that will be used for painting the black part of the fill pattern.
	BG Color	Specifies the color for the selected state that will be used for painting the white part of the fill pattern.
Profile	Left	The X coordinate of the upper-left corner of the bounding rectangle of the ellipse.
	Top	The Y coordinate of the upper-left corner of the bounding rectangle of the ellipse.
	Width	The width of the bounding rectangle of the ellipse.
	Height	The height of the bounding rectangle of the ellipse.
Visibility Control	Visibility Controlled By Bit	Check this option if the ellipse will be shown or hidden by the specified bit.
	Control Bit	Specifies the bit that shows or hides the ellipse. Click  to enter the bit address. Click  to enter the bit tag.
	Visible State	Specifies the state (On or Off) that makes the ellipse visible.

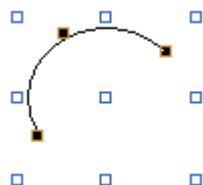
6. You can click the following icons in the Draw toolbar to modify the properties of the ellipse.

Click Icon	To
	Select a color for the outline.
	Select a color for painting the white part of the fill pattern.
	Select a pattern for the fill pattern.
	Select a color for painting the black part of the fill pattern.






### 4.1.7. Drawing Arcs

1. In the Draw menu or Draw toolbar, click **Arc**  to draw an arc.
2. Move the cursor onto the screen where you want to draw an arc. An arc with default settings will display and move along with the cursor.
3. Click the desired position on the screen to place the arc. The upper-left corner of the bounding rectangle of the arc will be at the clicked position.
4. Drag one handle of the arc at a time to change the shape of the arc.

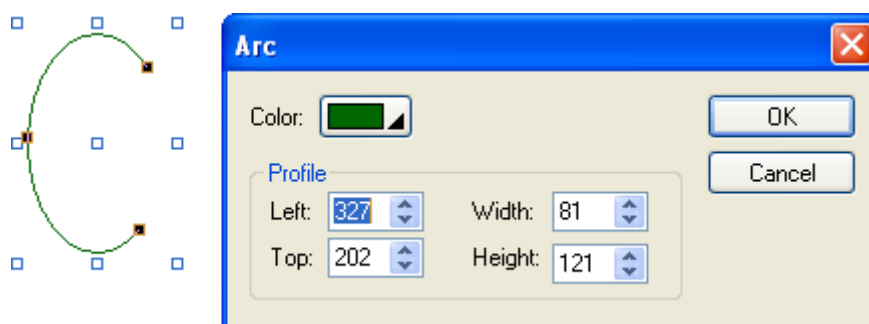


The picture on the left shows the handles of an arc. The blue handles are for shaping the arc. The black handles of the two ends of the arc are for changing the ends' angles. The black handle at the center of the arc is for forcing the arc to be a part of a circle.

Position the mouse pointer over one of the handles. When the cursor changes to  or  or , drag the handle until the arc is the shape and size you want.

5. Double-click the arc to bring up the Arc dialog box and then modify the settings of the arc.


The following is a sample of the Arc dialog box.




The following table describes each property in the Arc dialog box.

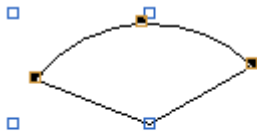
Property		Description
Color		Specifies the color of the arc.
Profile	Left	The X coordinate of the upper-left corner of the bounding rectangle of the arc.
	Top	The Y coordinate of the upper-left corner of the bounding rectangle of the arc.
	Width	The width of the bounding rectangle of the arc.
	Height	The height of the bounding rectangle of the arc.

6. You can click the following icons in the Draw toolbar to modify the properties of the arc.





Click Icon	To
	Select a color for the arc.

### 4.1.8. Drawing Pie Shapes

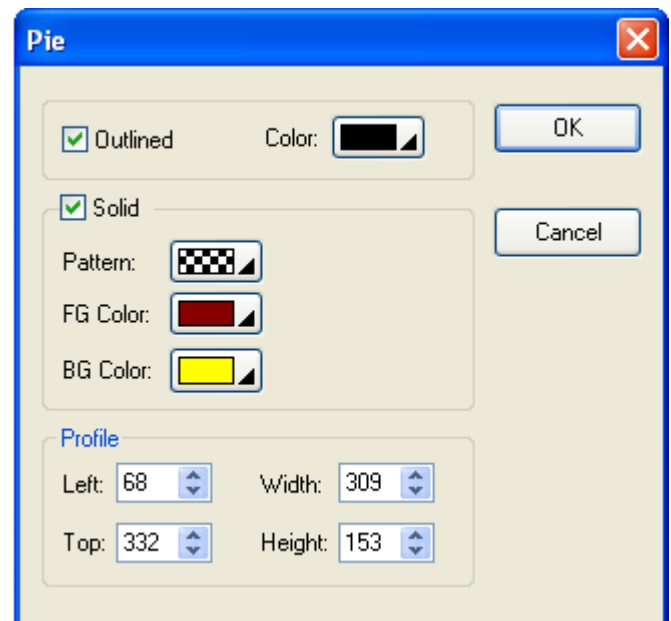
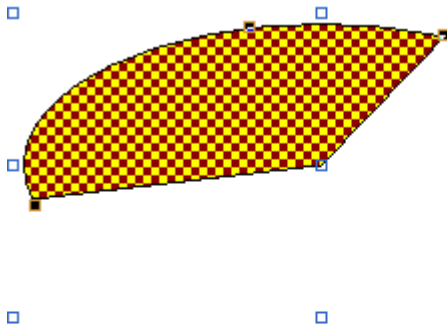
1. In the Draw menu or Draw toolbar, click **Pie**  to draw a pie shape.
2. Move the cursor onto the screen where you want to draw a pie shape. A pie shape with default settings will display and move along with the cursor.
3. Click the desired position on the screen to place the pie shape. The upper-left corner of the bounding rectangle of the pie shape will be at the clicked position.
4. Drag one handle of the pie shape at a time to change the pie shape.



The picture on the left shows the handles of a pie shape. The blue handles are for changing the pie shape. The black handles at the two ends of the pie are for changing the size of the pie. Clicking the black handle at the center of the pie applies the radius to the entire pie and can be used to change the radius of the pie.

Position the mouse pointer over one of the handles. When the cursor changes to  or  or  or , drag the handle until the pie is the shape and size you





5. Double-click the pie shape to bring up the Pie dialog box to modify the settings of the pie shape.




The following table describes each property in the Pie dialog box.

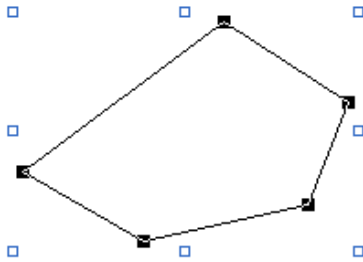
Property		Description
Outline	Outlined	Check this option if you want the pie shape to be outlined.
	Color	Specifies the outline color.
Solid	Solid	Check this option if you want the pie shape to be solid. A solid pie shape is filled with the specified pattern and colors.
	Pattern	Specifies the fill pattern.
	FG Color	Specifies the color that will be used for painting the black part of the fill pattern.
	BG Color	Specifies the color that will be used for painting the white part of the fill pattern.
Profile	Left	The X coordinate of the upper-left corner of the bounding rectangle of the pie shape.
	Top	The Y coordinate of the upper-left corner of the bounding rectangle of the pie shape.
	Width	The width of the bounding rectangle of the pie shape.
	Height	The height of the bounding rectangle of the pie shape.

6. You can click the following icons in the Draw toolbar to modify the properties of the pie shape





Click Icon	To
	Select a color for the outline.
	Select a color for painting the white part of the fill pattern.
	Select a pattern for the fill pattern.
	Select a color for painting the black part of the fill pattern.

### 4.1.9. Drawing Polygons

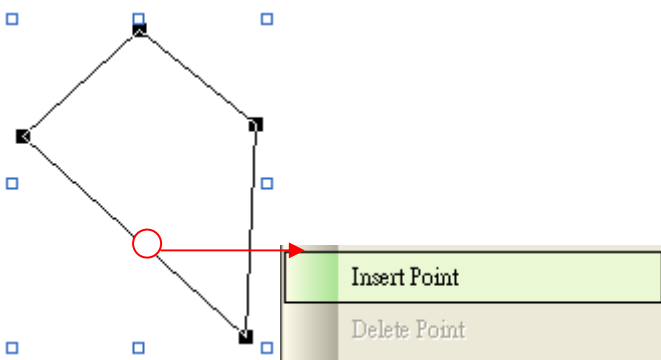
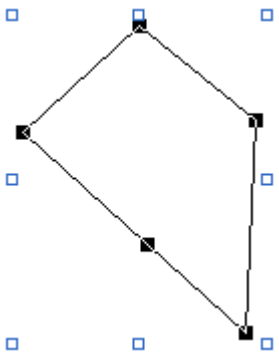
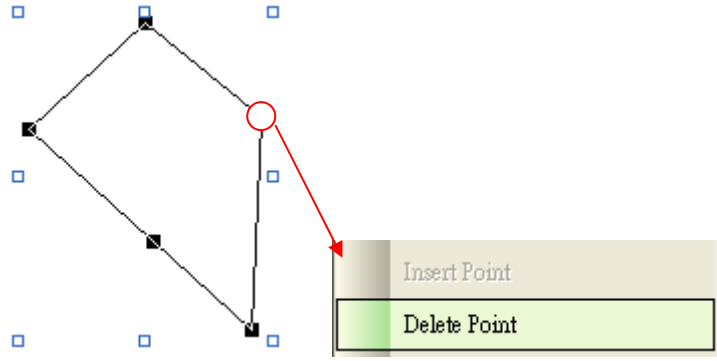
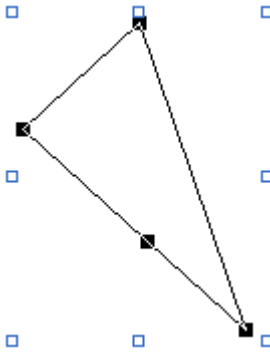
1. In the Draw menu or Draw toolbar, click **Polygon**  to draw a polygon.
2. Move the cursor onto the screen where you want to draw a polygon and click the position where you want the first vertex of the polygon to be at.
3. Continue clicking on the screen to place as many points needed for vertices in the polygon.
4. Right-click to place the last vertex for the polygon and complete the polygon.
5. Drag one handle of the polygon at a time to resize the polygon.
6. Drag one black handle of the polygon at a time to adjust the vertex positions of the polygon.



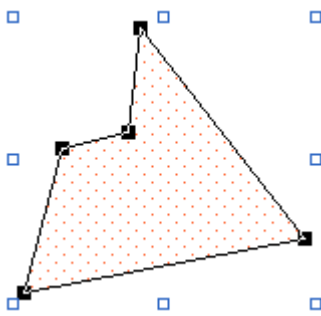
The picture on the left shows the handles of a polygon. The blue handles are for resizing the polygon. The black handles are for moving the vertices of the polygon.

Position the mouse pointer over one of the handles. When the cursor changes to  or  or  or , drag the handle until the polygon is the shape and size you want.

7. Right-click anywhere on the polygon and use the Insert Point command on the object pop-up menu to insert a new point for the polygon. Or right-click the existing point of the polygon and use the Delete Point command on the object pop-up menu to delete the point.

Pop-up menu	Description
Insert Point	<p>Add a point at the specified position.</p>  
Delete Point	<p>Delete a selected point.</p>  

8. Double-click the polygon to bring up the Polygon dialog box to modify the settings of the polygon.



**Polygon**

**Color Control**

☐ Static
 ☒ Blink
 ☐ Controlled By Bit
 ☐ Blink (Enabled by Bit)

OK
   
 Cancel

State: ☒ On ☐ Off

☒ Outlined

Thickness:  Color:

☒ Solid

Pattern:

FG Color:  BG Color:

**Profile**

Left:  Width:



Top:  Height:

☒ Visibility Controlled By Bit



Control Bit:

Visible State: ☒ ON ☐ OFF






The following table describes each property in the Polygon dialog box.

Property		Description
Color Control	Static	Check this option if the color of the polygon will not be changed.
	Controlled By Bit	Check this option if the color of the polygon will be controlled by the specified bit.
	Blink	Check this option so the polygon will blink. You have to choose the blink effects that change the color of the polygon from its On state Outlined and Solid option settings to Off state Outlined and Solid option settings.
	Blink(Enabled by Bit)	Check this option if you want to enable the polygon blinking by the specified bit.
	Control Bit	Specifies the bit that controls the color or enables the blinking. Click  to enter the bit address. Click  to enter the bit tag.
State		Select the state that you want to view or define the colors for.
Outline	Outlined	Check this option if you want the polygon to be outlined.
	Thickness	Specifies the thickness of the outline.
	Color	Specifies the outline color for the selected state.


Continued

Property		Description
Solid	Solid	Check this option if you want the polygon to be solid. A solid polygon is filled with the specified pattern and colors.
	Pattern	Specifies the fill pattern for the selected state.
	FG Color	Specifies the color for the selected state that will be used for painting the black part of the fill pattern.
	BG Color	Specifies the color for the selected state that will be used for painting the white part of the fill pattern.
Profile	Left	The X coordinate of the upper-left corner of the bounding rectangle of the polygon.
	Top	The Y coordinate of the upper-left corner of the bounding rectangle of the polygon.
	Width	The width of the bounding rectangle of the polygon.
	Height	The height of the bounding rectangle of the polygon.
Visibility Control	Visibility Controlled By Bit	Check this option if the polygon will be shown or hidden by the specified bit.
	Control Bit	Specifies the bit that shows or hides the polygon. Click  to enter the bit address. Click  to enter the bit tag.
	Visible State	Specifies the state (On or Off) that makes the polygon visible.

9. You can click the following icons in the Draw toolbar to modify the properties of the polygon.


Click Icon	To
	Select a line style for the border.
	Select a color for the border.
	Select a color for painting the white part of the fill pattern.
	Select a pattern for the fill pattern.
	Select a color for painting the black part of the fill pattern.

## 4.1.10. Drawing Text Objects

1. In the Draw menu or Draw toolbar, click **Text** .
2. Move the cursor onto the screen where you want to draw a text object. A text object with default settings will display and move along with the cursor.
3. Click the desired position on the screen to place the text object. The upper-left corner of the bounding box of the text object will be at the clicked position.
4. Double-click the text object to bring up the Text Object dialog box and then modify the settings of the text object. This dialog box contains the following three pages:
  - **General**  
Described in [Section 4.1.10.1.](#)
  - **Shape**  
Described in [Section 4.3.4](#)
  - **Visibility**  
Described in [Section 4.4.6.](#)

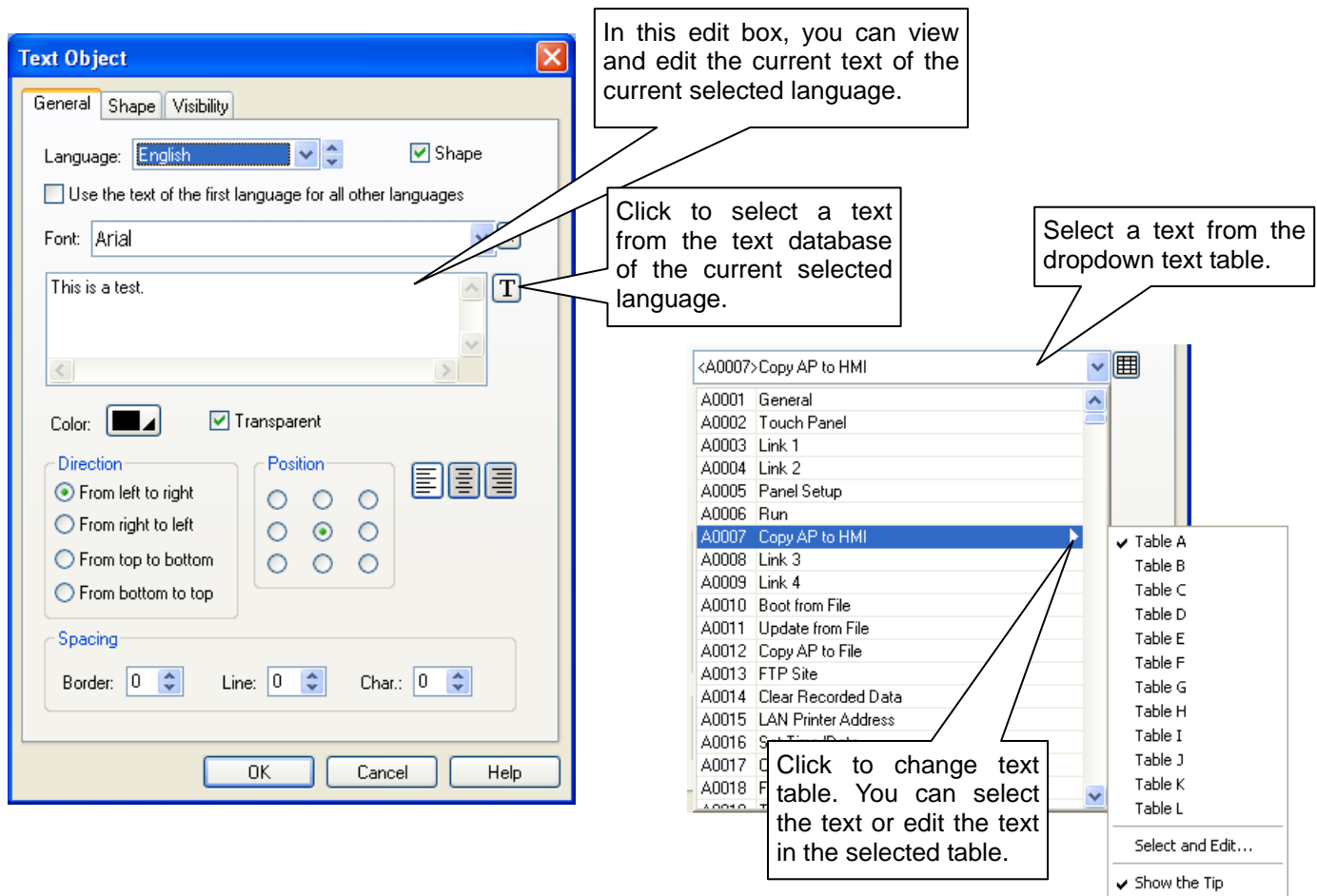
**Note 1:** You can use the Text toolbar to modify the properties of the text object's text instantly.

**Note 2:** You can use the Draw toolbar to modify the properties of the text object's shape instantly.

**Tip:** By default, the Auto Text Resizing on the Edit menu is checked and the related icon on the Edit toolbar is sunken. If you don't want to resize the text when resizing the object, you need to uncheck the Auto Text Resizing command on the Edit menu or click the sunken icon  on the Edit toolbar to make the font size fixed.

#### 4.1.10.1. General Settings







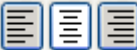
This section describes how to define the general settings for text objects.




The above is an example of the General page of the Text Object dialog box.

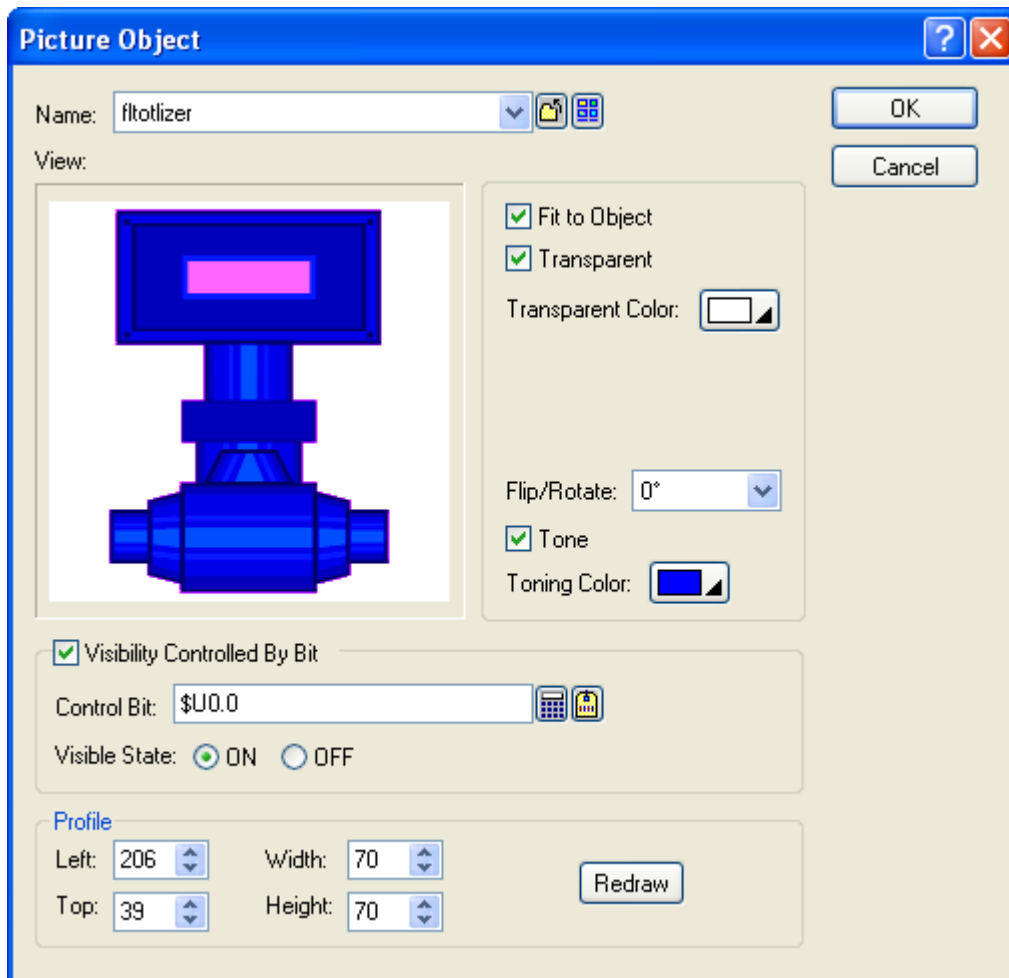


The following table describes each property in the General page.



Property		Description										
Language		The language that you are setting the text for.										
Shape		Check this option if you want the text object to have a frame as its background. The Shape page appears in the dialog box when the option is selected.										
Use the text of the first language for all other languages		Check this item so the text object always shows the text of the first language regardless of what the current language is.										
Font		The font of the current text. You can use the drop-down list to select a font, or click  to bring up the Font Templates dialog box and select a font for the current text. You can change the font templates before selecting a font in that dialog box.										
Text	<Edit Box> / <Combo Box>	The current text of the currently selected language.										
	 / 	Click  to view and edit the text for the selected language in this edit box, or click  to select a text from dropdown text table that lists all the texts from Text Database. You can change the text database before selecting a text.										
Color		The color of the text. To specify the color, click the corresponding Color icon and select a color from the Color palette.										
Transparent		Check this item to make the background of the text transparent.										
BG Color		Specifies the background color of the text. This field is available when Transparent is not selected.										
Direction		<div>Select one of the following directions to arrange the characters of the text.</div> <table><tr><th>Direction</th><th>From left to right</th><th>From right to left</th><th>From top to bottom</th><th>From bottom to top</th></tr><tr><td>Input text: An example</td><td>An example</td><td>elpmaxe nA</td><td>A n  e x a m p l e</td><td>e l p m a x e  n A</td></tr></table>	Direction	From left to right	From right to left	From top to bottom	From bottom to top	Input text: An example	An example	elpmaxe nA	A n  e x a m p l e	e l p m a x e  n A
Direction	From left to right	From right to left	From top to bottom	From bottom to top								
Input text: An example	An example	elpmaxe nA	A n  e x a m p l e	e l p m a x e  n A								
Position		<div></div> <div>The position of the text body.</div>										
		The alignment of the text.										
Border Spacing		The margin (in pixels) to the border of the object's shape for the text body.										
Line Spacing		The distance (in pixels) between two adjacent lines of the text.										
Character Spacing		The distance (in pixels) between two adjacent characters of the text.										

### 4.1.11. Drawing Picture Objects



1. In the Draw menu or Draw toolbar, click **Picture** .
2. Move the cursor onto the screen where you want to draw a picture object. A picture object with default settings will display and move along with the cursor.
3. Click the desired position on the screen to place the picture object. The upper-left corner of the bounding box of the picture object will be at the clicked position.
4. Double-click the picture object to bring up the Picture Object dialog box. Select a picture and define the settings for the picture object in the dialog box. Note that you can use the Picture toolbar to modify the properties of the picture object instantly. The following is an example of the Picture Object dialog box.




The following table describes each property in the Picture Object dialog box.

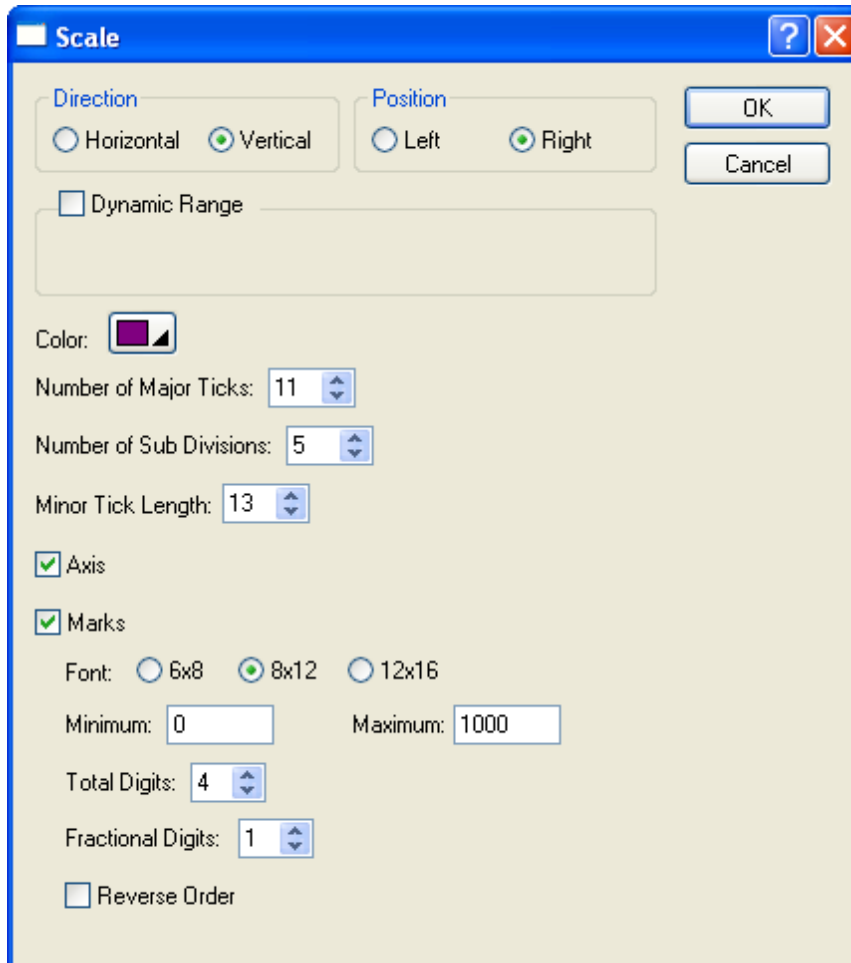
Property	Description
Name	<p>The name of the picture that the object displays. You can use the drop-down list to select a picture from the picture database.</p> <p>Click  to select a picture from a file. After the selection, the software imports the picture of the selected file and saves the picture in the picture database.</p> <p>Click  to bring up the Select/Import from Library dialog box. Select a picture from a picture library file. After the selection, the software imports the selected picture from the selected library and saves the picture in the picture database.</p>
View	Shows the processed result of the selected picture according to the current settings.

Continued

Property		Description																		
Fit to Object		Check this item so the picture can change its size automatically to fit inside the object.																		
Transparent		Check this item to make parts of the picture transparent. The transparent parts are pixels whose colors are identical to the specified transparent color. This item is available when the picture is not a black and white picture.																		
Transparent Color		The transparent color. This item is available when the picture is not a black and white picture.																		
FG Color		The color to paint the black part of a black and white picture. This item is available when the picture is a black and white picture.																		
BG Color		The color to paint the white part of a black and white picture. This item is available when the picture is a black and white picture.																		
Flip/Rotate		Specifies the method to flip or rotate the picture before drawing it. There are 8 options:																		
		<table><tr><th>Method</th><th>Description</th></tr><tr><td>0°</td><td>Do nothing</td></tr><tr><td>90°</td><td>Rotates the picture clockwise by 90 degrees</td></tr><tr><td>180°</td><td>Rotates the picture clockwise by 180 degrees</td></tr><tr><td>270°</td><td>Rotates the picture clockwise by 270 degrees</td></tr><tr><td>X</td><td>Flips the picture over the X axis</td></tr><tr><td>90° &amp; X</td><td>Rotates the picture clockwise by 90 degree and flips it over the X axis</td></tr><tr><td>Y</td><td>Flips the picture over Y axis</td></tr><tr><td>90° &amp; Y</td><td>Rotates the picture clockwise by 90 degree and flips it over the Y axis</td></tr></table>	Method	Description	0°	Do nothing	90°	Rotates the picture clockwise by 90 degrees	180°	Rotates the picture clockwise by 180 degrees	270°	Rotates the picture clockwise by 270 degrees	X	Flips the picture over the X axis	90° & X	Rotates the picture clockwise by 90 degree and flips it over the X axis	Y	Flips the picture over Y axis	90° & Y	Rotates the picture clockwise by 90 degree and flips it over the Y axis
		Method	Description																	
		0°	Do nothing																	
		90°	Rotates the picture clockwise by 90 degrees																	
		180°	Rotates the picture clockwise by 180 degrees																	
		270°	Rotates the picture clockwise by 270 degrees																	
		X	Flips the picture over the X axis																	
		90° & X	Rotates the picture clockwise by 90 degree and flips it over the X axis																	
Y	Flips the picture over Y axis																			
90° & Y	Rotates the picture clockwise by 90 degree and flips it over the Y axis																			
Tone		Check this item to tone the picture.																		
Toning Color		The color to tone the picture.																		
Visibility Control	Visibility Controlled By Bit	Check this option if the picture will be shown or hidden by the specified bit.																		
	Control Bit	Specifies the bit that shows or hides the picture object. Click  to enter the bit address. Click  to enter the bit tag.																		
	Visible State	Specifies the state (On or Off) that makes the picture visible.																		
Profile	Left	The X coordinate of the upper-left corner of the object.																		
	Top	The Y coordinate of the upper-left corner of the object.																		
	Width	The width of the object.																		
	Height	The height of the object.																		
	Redraw	Click this button to redraw the object on the screen with the current settings.																		

### 4.1.12. Drawing Scales

1. In the Draw menu or Draw toolbar, click **Scale** .
2. Move the cursor onto the screen where you want to draw a scale. A scale with default settings will display and move along with the cursor.
3. Click the desired position on the screen to place the scale. The upper-left corner of the bounding box of the scale will be at the clicked position.
4. Double-click the scale to bring up the Scale dialog box and then define the settings for the scale. The following is an example of the Scale dialog box. The corresponding scale is shown to the right of the dialog box.




**Scale**

**Direction**  
☐ Horizontal ☒ Vertical

**Position**  
☐ Left ☒ Right

☐ Dynamic Range

Color: 

Number of Major Ticks:

Number of Sub Divisions:

Minor Tick Length:

☒ Axis

☒ Marks

Font: ☐ 6x8 ☒ 8x12 ☐ 12x16

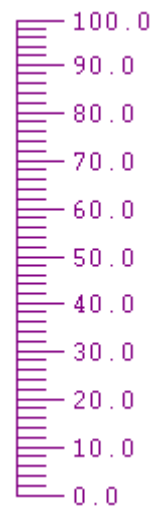
Minimum:  Maximum:

Total Digits:

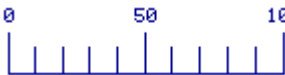

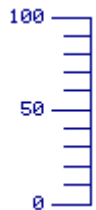

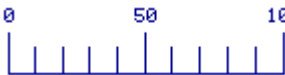

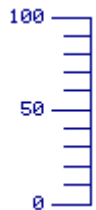

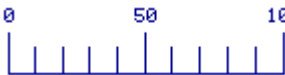

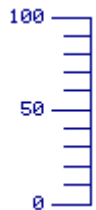

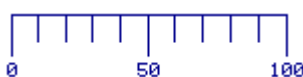
Fractional Digits:

☐ Reverse Order


OK Cancel

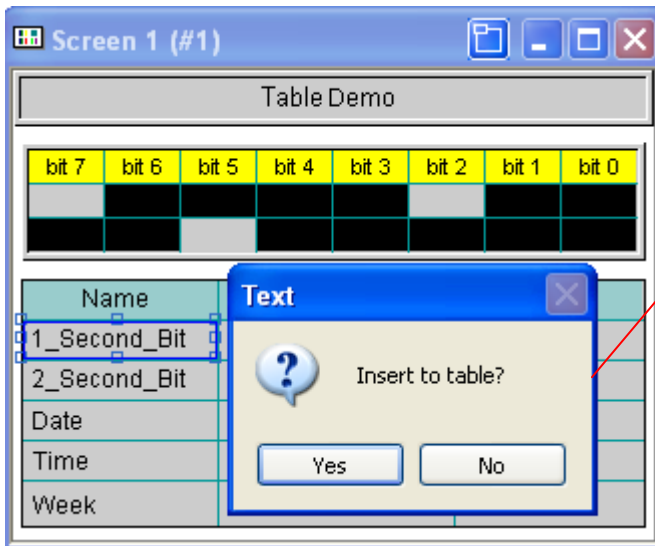


The following table describes each property in the Scale dialog box.

Property		Description															
Direction and Position		Select the direction and the position of the scale.															
		<table><tr><th>Direction</th><th colspan="2">Horizontal</th><th colspan="2">Vertical</th></tr><tr><th>Position</th><th>Top</th><th>Bottom</th><th>Left</th><th>Right</th></tr><tr><th>Example</th><td></td><td></td><td></td><td></td></tr></table>	Direction	Horizontal		Vertical		Position	Top	Bottom	Left	Right	Example				
		Direction	Horizontal		Vertical												
		Position	Top	Bottom	Left	Right											
Example																	
Dynamic Range	Dynamic Range	Check this item if you want the numbers of the scale ticks and the range of the scale marks to be dynamic, i.e. to be controlled by the specified variable.															
	Parameter Block	<p>Specifies the variable that controls the numbers of the scale ticks and the range of the scale marks. The variable is an array of four double-words (8 words). The following table describes the data members of the array.</p> <table><tr><th>Word #</th><th>Data Type</th><th>Description</th></tr><tr><td>0, 1</td><td>32-bit unsigned integer</td><td>The number of major ticks. The allowable range of this number is between 2 and 101.</td></tr><tr><td>2, 3</td><td>32-bit unsigned integer</td><td>The number of divisions between two adjacent major ticks. The allowable range of this number is between 1 and 100.</td></tr><tr><td>4, 5</td><td>32-bit signed integer</td><td>The minimum of the scale marks.</td></tr><tr><td>6, 7</td><td>32-bit signed integer</td><td>The maximum of the scale marks.</td></tr></table> <p><b>Example</b></p> <p>Assume a scale's dynamic range control block is \$U100. The following macro commands makes the scale look like this:</p>  <pre>\$U100 = 3 (UD) // The number of major ticks. \$U102 = 5 (UD) // The number of sub-divisions. \$U104 = 0 (SD) // The minimum of the scale marks. \$U106 = 100 (SD) // The maximum of the scale marks.</pre>	Word #	Data Type	Description	0, 1	32-bit unsigned integer	The number of major ticks. The allowable range of this number is between 2 and 101.	2, 3	32-bit unsigned integer	The number of divisions between two adjacent major ticks. The allowable range of this number is between 1 and 100.	4, 5	32-bit signed integer	The minimum of the scale marks.	6, 7	32-bit signed integer	The maximum of the scale marks.
Word #	Data Type	Description															
0, 1	32-bit unsigned integer	The number of major ticks. The allowable range of this number is between 2 and 101.															
2, 3	32-bit unsigned integer	The number of divisions between two adjacent major ticks. The allowable range of this number is between 1 and 100.															
4, 5	32-bit signed integer	The minimum of the scale marks.															
6, 7	32-bit signed integer	The maximum of the scale marks.															
Color		The color of the scale. To specify the color, click the corresponding Color icon and select a color from the Color palette.															
Number of Major Ticks		The number of major ticks. The minimum you can specify is two.															
Number of Sub Divisions		The number of divisions between two adjacent major ticks. The minimum you can specify is one.															
Minor Tick Length		The length of minor ticks.															
Axis		Check this item if you want the scale to have an axis.															
Marks	Marks	Check this option if you want the scale to have marks.															
	Font	The font of the marks.															
	Minimum	The minimum of the marks. It is a 32-bit integer.															
	Maximum	The maximum of the marks. It is a 32-bit integer.															
	Total Digits	The total digits to be displayed for the marks.															
	Fractional Digits	The number of fractional digits for the marks. For example, when the Maximum is 5000, the Total Digits is 4, and the Fractional Digits is 2, the mark for the Maximum will be 50.00.															
	Reverse Order	Check this option if you want the marks of the scale to show in reverse order. In normal order, the maximal mark is at the right end or top end of the scale. In reverse order, the maximal mark is at the left end or bottom end of the scale.															


### 4.1.13. Drawing Tables

1. In the Draw menu or Draw toolbar, click **Table** .
2. Move the cursor onto the screen where you want to draw a table. A table with default settings will display and move along with the cursor.
3. Click the desired position on the screen to place the table. The upper-left corner of the table will be at the clicked position.
4. Use drag-and-drop editing to move an existing object into an empty cell of the table. If the object is allowed to be placed in the cell, a message box will pop-up to confirm the operation. The following is an example of object insertion with the confirmation dialog box.

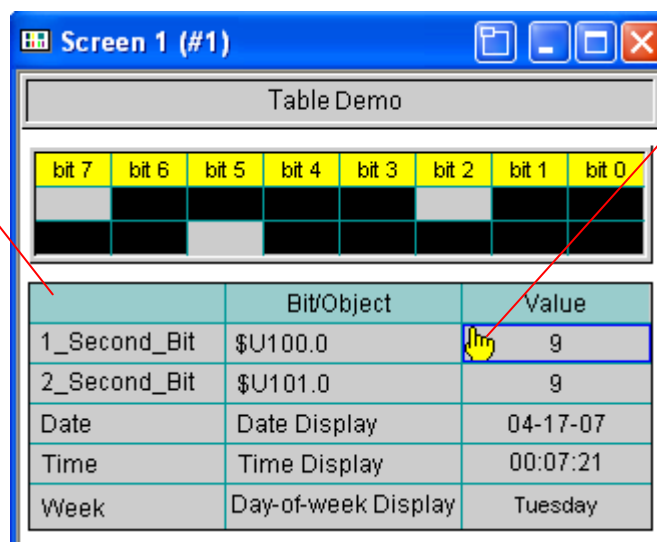



- If you click Yes to insert the object to the table, the object will be part of the table. Any modifications such as moving the table, resizing the table, deleting the table... will be applied to the objects of the table at the same time.
- If you click No to cancel the operation, the object will move to the specified position and float over the table.

**Note:** Only 23 types of objects can be placed in the cells of the table. The supported objects are Picture, Dot, Text, Bit Button, Toggle Switch, Word Button, Multistate Switch, Screen Button, Function Button, Keypad Button, Numeric Display, Numeric Entry, ASCII String Display, ASCII String Entry, Bit Lamp, Multistate Lamp, Time Display, Date Display, Day-of-Week Display, Message Display, Bar Graph, Picture Display, GIF Display, and Advanced Numeric Display.



5. Click the cell inside the table. If the cell contains the object, there will be the  icon on the upper-left corner of the cell. The following is an example showing you how to edit the object in the table.

This is an empty cell where you can place an object.



➤ Left-click the icon and hold down the button. When the cursor changes to , move the object out of the table.

➤ Double click the icon to bring up the properties dialog box of the corresponding object and then define the settings of object for the selected cell.


6. Position the mouse point over one of the grid lines. When the cursor changes to  or , drag the line until the column is the width and the row is the height you want.

Name	Bit/Object	Value
1_Second_Bit	\$U100.0	9
2_Second_Bit	\$U101.0	9
Date	Date Display	04-17-07
Time	Time Display	00:07:21
Week	Day-of-week Display	Tuesday

Drag the line to adjust the width of the column.

Drag the line to adjust the height of the row.

**Note:** You can adjust the width of the column when the Distribute Columns Evenly is not selected in the general page of the Table dialog box. And you can adjust the height of the row when the Distribute Rows Evenly is not selected in the general page of the Table dialog box.

7. Double-click anywhere inside the table, other than the  icon, to bring up the Table dialog box and then define the settings for the table. This dialog box contains the following two pages:

- **General**

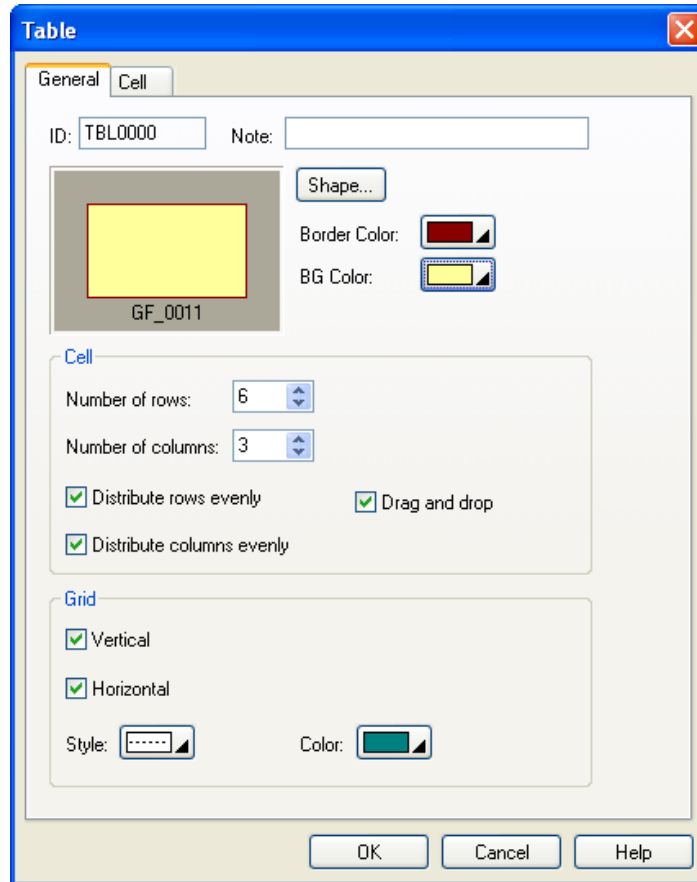
Described in [Section 4.1.13.1](#).

- **Cell**

Described in [Section 4.1.13.2](#).

#### 4.1.13.1. General Settings

This section describes how to define the general settings for the table objects. The following is an example of the General page of the Table Object dialog box.



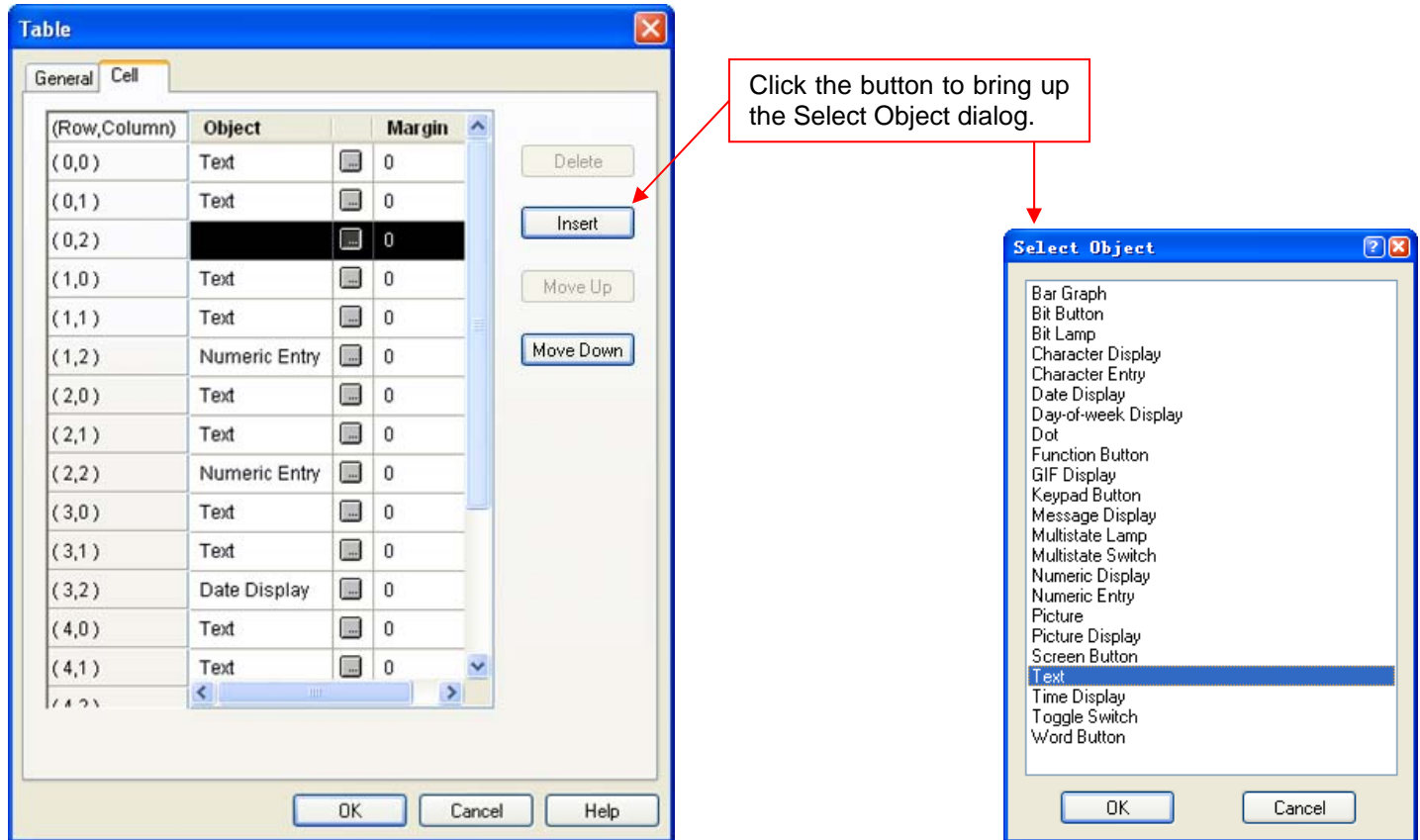
The following table describes each property in the General page of the Table dialog box.

Property		Description
ID		The object's identifier is generated when the object is created and is unchangeable. The identifier is unique within the screen where the object is located. The format of the IDs for the tables is TBLnnnn.
Note		You can type a note for the object.
Shape settings		For details about the following properties, see <a href="#">Section 4.3.4 Setting up the Shape of an Object</a> . <a href="#">Shape...</a> , Border Color, BG Color
Cell	Number of rows	Specifies the number of rows in the table.
	Number of columns	Specifies the number of columns in the table.
	Distribute rows evenly	Check this option if you want the rows of the table to be always distributed evenly. Uncheck this option if you want to adjust the heights of the rows.
	Distribute columns evenly	Check this option if you want the columns of the table to be always distributed evenly. Uncheck this option if you want to adjust the widths of the columns.
	Drag and drop	Check this option so you can drag and drop an object into a cell of the table. Note that not all kinds of objects can be placed in the cells of the table.
Grid	Vertical	Check this option if you want the table to have vertical grid lines.
	Horizontal	Check this option if you want the table to have horizontal grid lines.
	Style	Specifies the style for the grid lines.
	Color	Specifies the color for the grid lines.




#### 4.1.13.2. Cell Settings

The following is an example of the Cell page of the Table Object dialog box and the Select Object Dialog box when the Insert Button is clicked.



The following table describes each property in the Cell page of the Table dialog box. To make the buttons available, you need to select a row. To select a row, left-click the (Row, Column) column.

Property	Description
(Row,Column)	The location of the cell.
Object	The type of the specified object. If the field is empty, the cell has no object inserted and it is called empty cell.
	Click the button to bring up the properties dialog box of the specified object and define the settings of the object for the selected cell. The button is available when the Object field is not empty.
Margin	The distance in pixels between the object boundary and the cell border. Select a number between 0 and 10.
Delete	Click the button to clear the contents of the selected cell. The button is available when the selected cell is not empty.
Insert	Click the button to bring up the Select Object dialog box shown above. Select an object type listed in the dialog to create a new object for the selected cell. The button is available when the selected cell is empty.  <b>Note:</b> The table won't allow the insertion of the type of object which is not listed in the dialog.
Move Up	Click the button to move the selected cell before the previous cell. It will not be available when multiple rows are selected, no row is selected, or the first row is selected.
Move Down	Click the button to move the selected cell after the next cell. It will not be available when multiple rows are selected, no row is selected, or the last row is selected.

## 4.2. Editing Objects

In this section you will learn how to select the objects first and then move around, copy, or edit the selections without affecting the rest of the screen.

### 4.2.1. Selecting and De-selecting Objects

#### ■ Selecting Objects

To select an object, move the mouse to the object you want to select and then click the left button.

To add an object to the selection, use Shift + Click.

To select all objects of the active screen, use Ctrl + A, or use the Select All command on the Edit menu.

#### ■ Selecting Objects by a Rectangular Area

Left-click on the blank area of the screen, and hold the button to begin your selection. Where you click will become one of the corners of the rectangular selection area. Then drag the mouse diagonally. Release the mouse button when you reach the position that you want the opposite corner of the rectangular area to be.


Each of the selected objects will have blue square-shaped tabs around it. The object with solid tabs is the reference object.

#### ■ De-selecting Objects


To de-select objects, either click the blank area of the screen, or make a new selection.


### 4.2.2. Basic Operations with the Selected Area

#### ■ Moving Objects





Left-click anywhere inside the selected object and hold down the button. When the cursor turns changes to , drag the mouse to move the selection to another area of the screen. The selection will "float" over the rest of the screen, allowing you to position it wherever you like. Release the mouse button to "let go" of the selection.

#### ■ Grouping or Ungrouping Objects

To group the selection, click  on the edit toolbar, or use the Group command on the Edit menu or on the object pop-up menu. After you have grouped a selection that includes at least two objects, you can copy, move or resize all objects in a group as a single unit. You can select an object within the group and change its properties without ungrouping. You can also save the group to the object library and use this object group in an animated graphic.


To ungroup the selected group, click  on the edit toolbar, or use the Ungroup command on the Edit menu or on the object pop-up menu. After ungrouping the objects, the objects within the group will be restored to the single ones.

#### ■ Resizing Objects

The square-shaped tabs around your object can be re-sized. You can resize by clicking on the square-shaped tabs located at the corners and the middle sections of the bound rectangle area and holding the mouse button down. When the cursor changes to  or  or  or , drag the mouse to change the size of the selection. Release the mouse button when the selection is the size you like. You can make it bigger or smaller, and achieve a distorted effect by "squashing" or "stretching" the selection to make it either wider/narrower or taller/shorter than its original proportions.


**Tip:** You can't resize more than one object at a time unless you group multiple objects before resizing.


#### ■ Auto Text Resizing

To automatically scale the text of the object when resizing the object, click  on the edit toolbar if it is raised, or use the Auto Text Resizing command on the Edit menu.

**Tip:** The Auto Text Resizing command is checked and the icon is sunken by default. If you don't want to resize the text when resizing the object, you need to uncheck the Auto Text Resizing command or click the sunken icon to make the font size fixed.


## ■ Pinning or Unpinning Objects

To pin the selection so that it cannot move, click  on the edit toolbar, or use the Pin command on the Edit menu or on the object pop-up menu.


To unpin the selection so that it can move again, click  on the edit toolbar, or use the Unpin command on the Edit menu or on the object pop-up menu.


**Tip:** Pinned objects can still be resized.

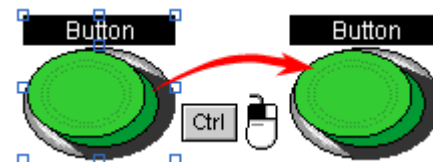
## ■ Copying or Cutting and Pasting Objects

To copy a selection from the current screen and place it on the Windows™ clipboard, press Ctrl+C, or click  on the standard toolbar, or use the Copy command on the Edit menu or on the object pop-up menu.

To cut a selection from the screen, press Ctrl+X, or click  on the standard toolbar, or use the Cut command on the Edit menu or on the object pop-up menu.

After Copying or Cutting, you can paste the selection by pressing Ctrl+V, or click  on the standard toolbar, or use the Paste command on the Edit menu or on the object pop-up menu.

To copy and paste the selection by mouse, press and hold down the Ctrl key, and then left-click the selection and hold down the button. When the cursor changes to , drag the mouse to copy the selection to another area of the screen. The picture on the right is an example.



**Tip:** Cut and Paste are good for moving objects around within the screen or to another screen.

Copy and Paste are good for duplicating objects from the current screen to other screens.

By pasting multiple times on the current screen, you can achieve a cascading effect.

By pasting once to a different screen, the position of the pasted object will be the same as the copied object from the original screen.

## ■ Deleting Objects

To delete a selection, press Del, or use the Delete command on the Edit menu, or on the object pop-up menu. When you use Delete, whatever is in the selection will be deleted.

## ■ Undo

To reverse the last action, press Ctrl+Z, or use the Undo command on the Edit menu.

## ■ Redo

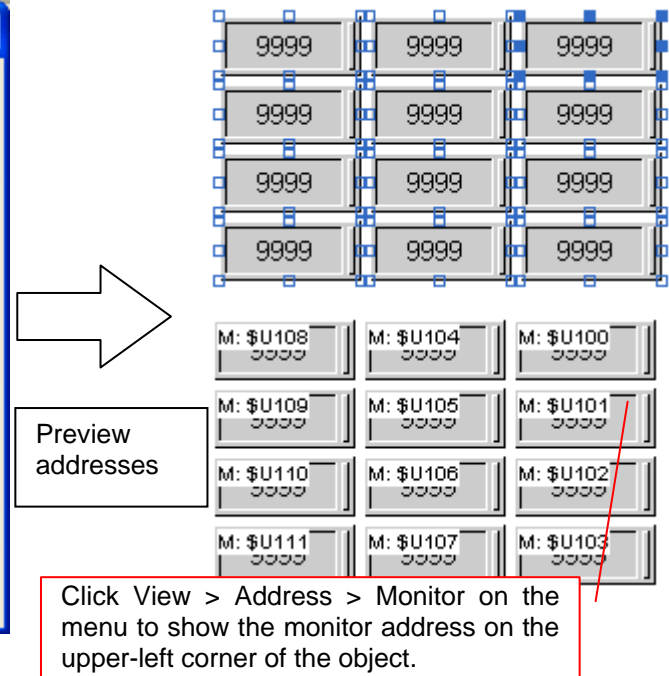
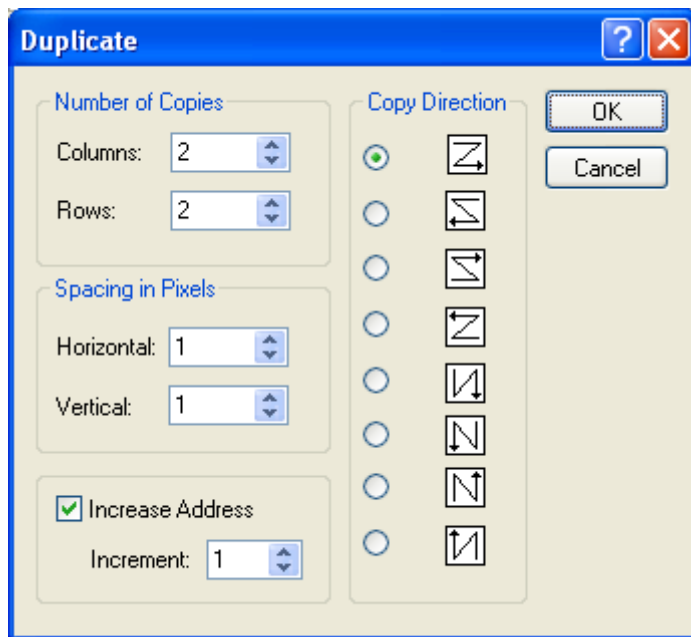
To reapply the actions that were previously canceled by the Undo command, press Ctrl+Z, or use the Redo command on the Edit menu.

## ■ Keyboard Shortcuts

Shortcut	Operation	Shortcut	Operation	Shortcut	Operation
【Ctrl+N】	New Project	【Ctrl+X】	Cut	【Ctrl+D】	Duplicate
【Ctrl+O】	Open Project	【Ctrl+C】	Copy	【Ctrl+F】	Find
【Ctrl+S】	Save	【Ctrl+V】	Paste	【Ctrl+R】	Replace
【Ctrl+Z】	Undo	【Ctrl+Click+move】	Copy & Paste	【Ctrl+A】	Select All
【Ctrl+Y】	Redo	【Del】	Delete	【Shift+Click】	Multiple Select
				【Ctrl+Click】	Reference Object Select

### 4.2.3. Duplicating Objects

To duplicate the selected object, use the Duplicate... command on the Edit menu or on the object pop-up menu. After the duplicate command is executed, the following dialog will pop-up and allow you to set how to duplicate objects.














The following table describes each property in the Duplicate dialog.

Property		Description
Number of Copies	Columns	The total number of columns.
	Rows	The total number of rows.
Spacing in Pixels	Vertical	The distance (in pixels) between two adjacent objects in the vertical direction.
	Horizontal	The distance (in pixels) between two adjacent objects in the horizontal direction.
Increase Address		Check this item so the address of each duplicate will be increased to a specified increment over the previous object.
Increment		The increase amount.
Copy Direction		From top to bottom, place the duplicates row by row. In the same row, place the duplicate to the right of the previous object.
		From top to bottom, place the duplicates row by row. In the same row, place the duplicate to the left of the previous object.
		From bottom to top, place the duplicates row by row. In the same row, place the duplicate to the right of the previous object.
		From bottom to top, place the duplicates row by row. In the same row, place the duplicate to the left of the previous object.
		From left to right, place the duplicates column by column. In the same column, place the duplicate below the previous object.
		From right to left, place the duplicates column by column. In the same column, place the duplicate below the previous object.
		From left to right, place the duplicates column by column. In the same column, place the duplicate above the previous object.
		From right to left, place the duplicates column by column. In the same column, place the duplicate above the previous object.

### 4.2.4. Aligning Objects




To arrange the selected objects on a screen, you need to select a reference object from within the selection and then press the icon on the toolbar or click the menu item listed as below. To do a multiple selection, use Shift + Click. To select a reference object from the selection, use Ctrl + Click.

Use the **Align** commands on the [Edit](#) menu to arrange objects/drawings on a screen. Select an object or drawing by single-clicking on it, then hold down the **Shift** key while clicking on the other objects or drawings to be aligned with it. When all of the objects or drawings to be aligned are selected, choose one of the commands in the **Align** submenu or directly click a specified icon in the **Edit Toolbar**.





Icon	Menu Item		Description
	Align	Left	Align the left sides of selected objects to the left side of the reference object. All the objects move horizontally so their left sides are in line with the left side of the reference object.
		Vertical Center	Align the vertical centers of selected objects to the vertical center of the reference object. All the objects move horizontally so their vertical centers are in line with the vertical center of the reference object.
		Right	Align the right sides of selected objects to the right side of the reference object. All the objects move horizontally so their right sides are in line with the right side of the reference object.
		Top	Align the tops of the selected objects to the top of the reference object. All the objects move vertically so their tops are in line with the top of the reference object.
		Horizontal Center	Align the horizontal centers of selected objects to the horizontal center of the reference object. All the objects move vertically so their horizontal centers are in line with the horizontal center of the reference object.
		Bottom	Align the bottoms of selected objects to the bottom of the reference object. All the objects move vertically so their bottoms are in line with the bottom of the reference object.
		To Grid	Select or deselect the option of aligning objects to grid points.
	Nudge	Left	Nudge the selection left. When the Snap to Grid option is not selected, all objects of the selection move one pixel left. When the Snap to Grid option is selected, each object of the selection moves left to where its upper-left corner aligns to the nearest grid point.
		Right	Nudge the selection right. When the Snap to Grid option is not selected, all objects of the selection move one pixel right. When the Snap to Grid option is selected, each object of the selection moves right to where its upper-left corner aligns to the nearest grid point.
		Up	Nudge the selection up. When the Snap to Grid option is not selected, all objects of the selection move one pixel up. When the Snap to Grid option is selected, each object of the selection moves up to where its upper-left corner aligns to the nearest grid point.
		Down	Nudge the selection down. When the Snap to Grid option is not selected, all objects of the selection move one pixel down. When the Snap to Grid option is selected, each object of the selection moves down to where its upper-left corner aligns to the nearest grid point.

### 4.2.5. Making Objects Same Size

Make objects in the selection the same size as the reference object by first selecting the objects using Ctrl + Click, press the icon on the toolbar or click the menu item listed below.

Icon	Menu Item		Description
	Make Same Size	Width	Make the selected objects have the same width as the reference object.
		Height	Make the selected objects have the same height as the reference object.
		Both	Make the selected objects have the same width and height as the reference object.

### 4.2.6. Arranging the Order of Objects

Icon	Menu Item		Description
	Layer	Bring to Top	Bring the selection to the top.
		Bring Forward	Bring the selected object one layer up.
		Send Backward	Send the selected object one layer down.
		Send to Bottom	Send the selection to the bottom.
	Set Order		Start the order setting process for the objects of the active screen. For details, please see <a href="#">Section 4.2.6.1 Changing the Order of Objects</a>

#### 4.2.6.1. Changing the Order of Objects

The object order in the software is the order in which the selection cursor moves the input focus from one object to the next within a screen. Usually the order proceeds from left to right and from top to bottom in a screen. In the model with programmable keys such as 037-LSK, the Data Entry Object receives input focus in the specified order by clicking direction keys. In a touch panel, you can use the function button to select a data entry object with the order number previous or next to the current selection.

The object order is also the display order. If the screen contains overlapping objects, changing the order will change the display sequence of the objects. The objects that come later in the order are always displayed on top of any overlapping objects that precede them in the order.

##### ■ Viewing order

To view the current order of all objects in the screen, click Set Order on the Edit menu.

##### ■ Changing order

To change the order for all objects in the screen

- 1) On the Edit menu, click Set Order  
A Number in the upper-left corner of each object shows its place in the current order
- 2) Set the order by clicking each object in the order that you want the objects to be displayed. The ordering number starts from 1.
- 3) Click the blank field on the screen to exit Set Order mode


The following is an example of the object ordering.

The left screenshot shows a configuration screen with the following fields and controls:

- Title bar: 28 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
- Communications: Disabled (with up/down arrows and a plus/minus button)
- Port: COM1
- Baud Rate: 4800
- Data Bits: 7 bits
- Parity: None
- Stop Bit: 1 bit
- Command Delay: 99
- Retry Times: 99
- Timeout Time: 99
- Panel Address: 999
- PLC Address: 99999
- OK and Cancel buttons

The right screenshot shows the same screen with numbered objects and selection numbers:



- Title bar: 28 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
- 1 Communications: 2 sabled (with selection numbers 22 and 24)
- 3 Port: 4 M1
- 5 Baud Rate: 6 00 (with selection numbers 23 and 25)
- 7 Data Bits: 8 its
- 9 Parity: 10 ie
- 11 Stop Bit: 12 t
- 13 ommand Delay: 14
- 15 Retry Times: 16
- 17 Timeout Time: 18
- 19 Panel Address: 20
- 21 PLC Address: 29 99
- 26 OK
- 27 Cancel

If the screen is running on 037-LSK, click the down or right direction key to move the selection in 2-4-6-8-10-12-14-16-18-20-29 sequence. If the screen is running on the touch panel, click the function button  to move the selection in the same sequence. The text objects with 1,3,5...order number are not data entry object, so they won't receive the selection and are not listed in the sequence.



## 4.3. Designing Object Appearance

There are four common components of object appearance. They are described in the following table:





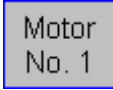

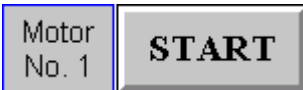

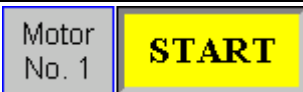
Appearance Component	Description								
Shape	<p>The shape of an object can either be a graphical shape or a picture shape. The following are examples of graphical shapes</p>  <p>The following are examples of picture shapes.</p>  <p>The software provides many graphical shapes for you to choose from. For details, see <a href="#">Section 4.3.3 Selecting a Graphical Shape</a>. The color or the pattern of a graphical shape is dependent on the state of the associated object. You need to specify the color or pattern settings of a graphical shape for each state of the associated object. For details, see <a href="#">Section 4.3.1 Selecting a Color</a> and <a href="#">Section 4.3.2 Selecting a Pattern</a>.</p> <p>If you want an object to have a picture shape, check the item Picture Shape in the General Page of the object's property dialog box. You can select a picture from the picture database or import a picture from a library file for the shape of an object. Any picture with the format of BMP, JPG, or WMF can be a picture shape. When a picture is used as a shape, the shape is state independent, i.e. the same look appears for all (object) states. If you want a picture shape to display the object state and/or show the touch action, you need to select a picture group as the shape. For details of picture groups, please see <a href="#">Section 2.2.3.2 Picture Groups</a></p> <p>To know how to set a shape, see <a href="#">Section 4.3.4 Setting up the Shape of an Object</a>.</p>								
Inner Label	<p>An inner label is a label inside the associated object. It has the same number of states as the associated object. You need to specify the text settings and the picture settings of an inner label for each (object) state. Inner labels are language dependent. You need to specify the text of an inner label for each language as well. Note that not all objects can have inner labels and some objects can have just text or a picture as their inner label. To know how to set an inner label, see <a href="#">Section 4.3.5 Label Settings</a>.</p>								
VFTA (Visual Feedback for Touch Action)	<p>A button or switch can give the operator one of the following visual feedbacks when it is touched:</p> <table> <tr> <th>Visual Feedback</th><th>Description</th></tr> <tr> <td>Sunken</td><td>Shifts the inner label to the lower-right corner by one or two pixels.</td></tr> <tr> <td>Back</td><td>Fills the area inside the border of the shape with the shape's FG Color.</td></tr> <tr> <td>Outline</td><td>Outlines the object with the shape's FG Color.</td></tr> </table>	Visual Feedback	Description	Sunken	Shifts the inner label to the lower-right corner by one or two pixels.	Back	Fills the area inside the border of the shape with the shape's FG Color.	Outline	Outlines the object with the shape's FG Color.
Visual Feedback	Description								
Sunken	Shifts the inner label to the lower-right corner by one or two pixels.								
Back	Fills the area inside the border of the shape with the shape's FG Color.								
Outline	Outlines the object with the shape's FG Color.								
External Label	<p>An external label is a label outside of but still attached to the associated object. Unlike inner labels, external labels are state independent. They have the same look for all (object) states. However, external labels are language dependent. You need to set the text of an external label for each language. External labels are touch insensitive. Touching an external label will not activate the associated object. Note that not all objects can have an external label. To know how to set an external label, see <a href="#">Section 4.3.8 External Label Settings</a>.</p>								



The following table shows the common appearance components that each object type can have:

Object Types	Shape		Inner Label		VFTA	External Label
	Graphical Shape	Picture Shape	Text	Picture		
Bit Button, Toggle Switch, Screen Button, Word Button, Multi-state Switch, Radio Button Group	•	•	•	•	•	•
Function Button, Keypad Button, Page Selector	•	•	•	•	•	
Step Button	•		•	•	•	•
Bit Lamp, Multi-state Lamp,	•	•	•	•		•
Message Display	•		•			•
Picture Display	•			•		•
Day-of-week Display	•		•			
Meter	•	•				
Slide Switch, Numeric Entry, Numeric Display, Advanced Numeric Display, ASCII Character Entry, ASCII Character Display, Bar Graph	•					•
Time Display, Date Display, Pie Graph, Line Chart, Scatter Chart, Alarm Display, Historic Data Display, Historic Trend Graph, Single Record Line Chart, Operation Log Display, Recipe Selector, Recipe Table, Sub-link Table, Static Text, Table	•					
Animated Graphic				•		

The orders of drawing the common appearance components are shown in the following table with examples:

Step	Draw	Example 1	Example 2	Description
1	Shape			Described in <a href="#">Section 4.3.4</a>
		A picture group that supports the pressed look	A graphical shape named SW_0023	
2	Picture of Inner label		(None)	Described in <a href="#">Section 4.3.5.2</a>
3	Text of inner label	<b>HELP</b>	<b>START</b>	Described in <a href="#">Section 4.3.5.1</a>
4	VFTA	(None)	Back (FG Color is  )	
5	External label	(None)		Described in <a href="#">Section 4.3.8</a>
Final Appearance (When untouched)				
Final Appearance (When touched)				

### 4.3.1. Selecting a Color

#### ■ Color Icons

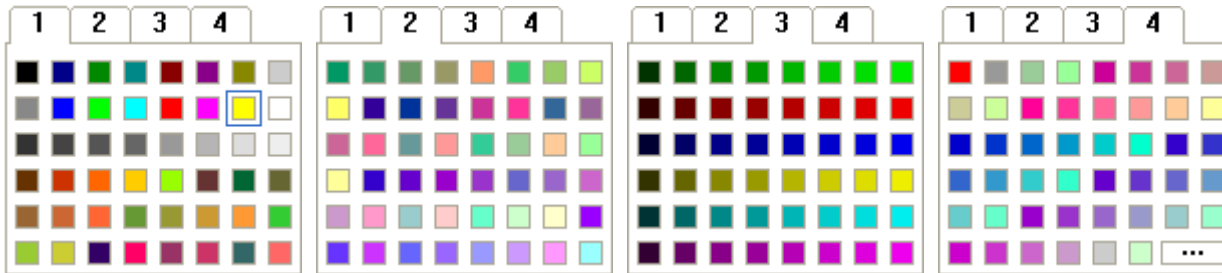
In a dialog box, a color icon is associated with a property that requires a color. It shows the color of the current selection and you can click it to bring up the Color palette. With the Color palette, you can select a color for the associated property. The following is a Color icon showing that the current selection is yellow.



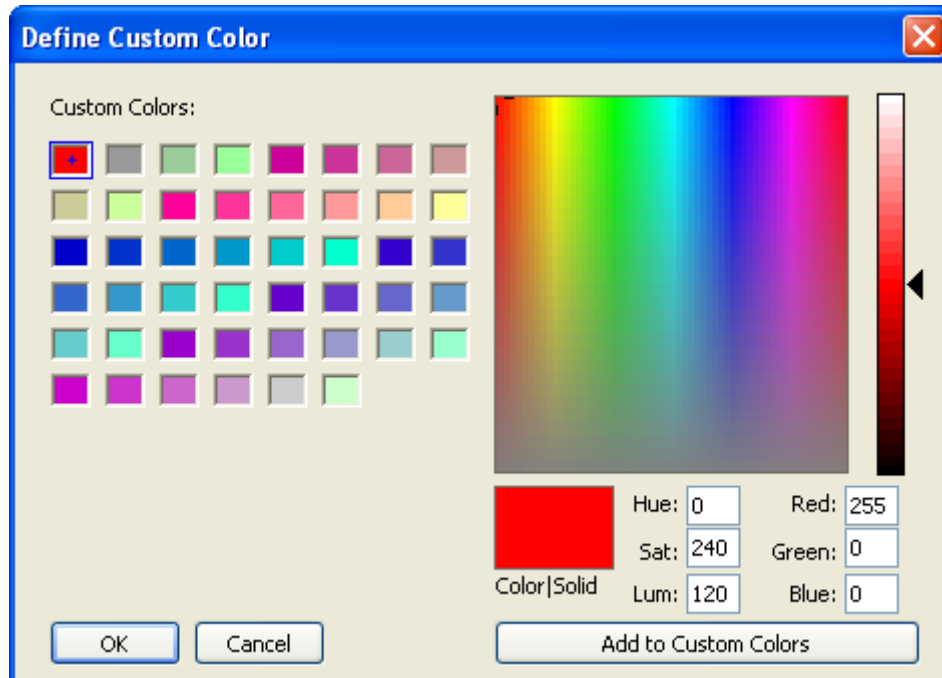
#### ■ Color Palette

With the Color palette, you can: 1) Select a color from a set of predefined colors, 2) Customize a set of user colors, and 3) Select a color from a set of user colors.

Usually, you click a Color icon to bring up the Color palette. The following shows the pages of the Color palette.



On page 1, the yellow block is outlined to indicate that it is the current selection. To select a color, click on that color block. To select a page, click on that page's number tab. To cancel the operation click on any position other than the color blocks and the number tabs. Page 1, 2, and 3 contain the predefined colors. Page 4 contains the user colors. To customize user colors, click to bring up the Define Custom Color dialog box as shown below.



### 4.3.2. Selecting a Pattern

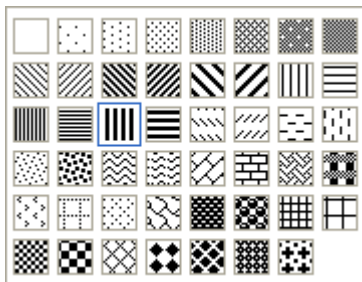
#### ■ Pattern Icons

In a dialog box, a Pattern icon is associated with a property that requires a pattern. It shows the pattern of the current selection and you can click it to bring up the Pattern palette. With the Pattern palette, you can select a pattern for the associated property. The following is a Pattern icon showing that the current selection is the “big dashes”.



#### ■ Pattern Palette

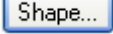
With the Pattern palette, you can select a pattern from a set of predefined patterns. Usually, you click a Pattern icon to bring up the Pattern palette as shown below.



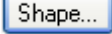

The “big dashes” block is outlined to indicate that it is the current selection. To select a pattern, click on that pattern block. To cancel the operation, click on any position other than the pattern blocks.

### 4.3.3. Selecting a Graphical Shape

#### ■ Shape Buttons

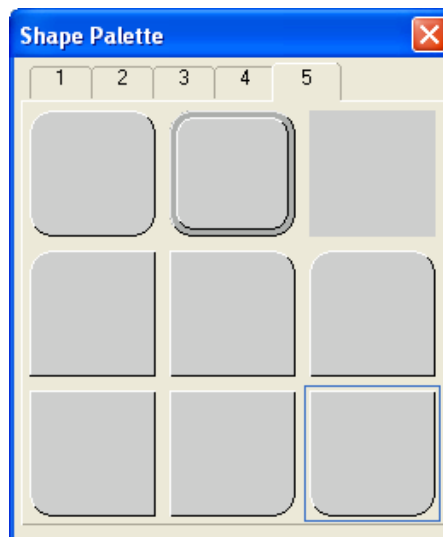
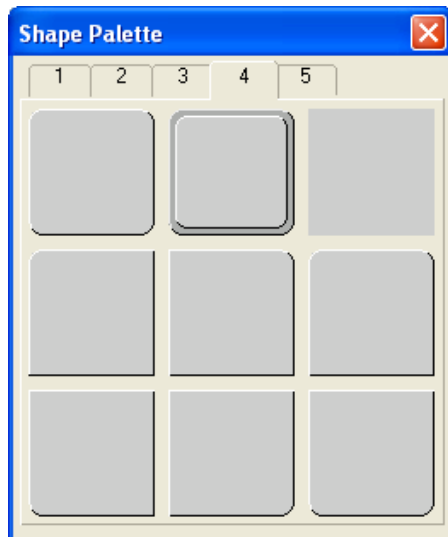
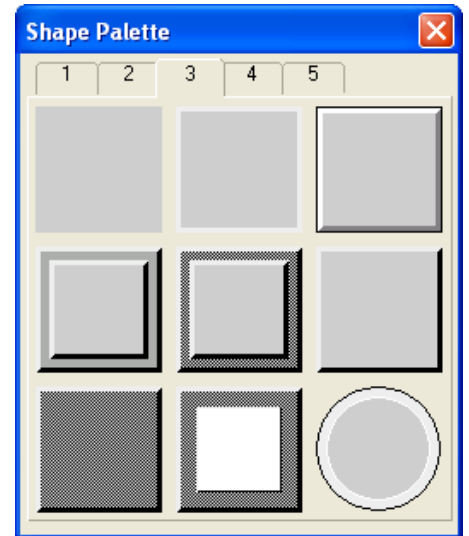
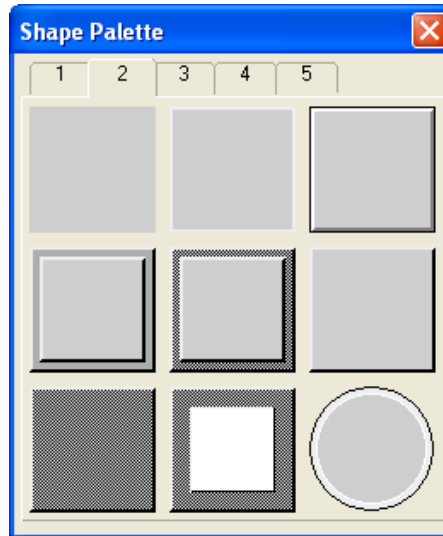
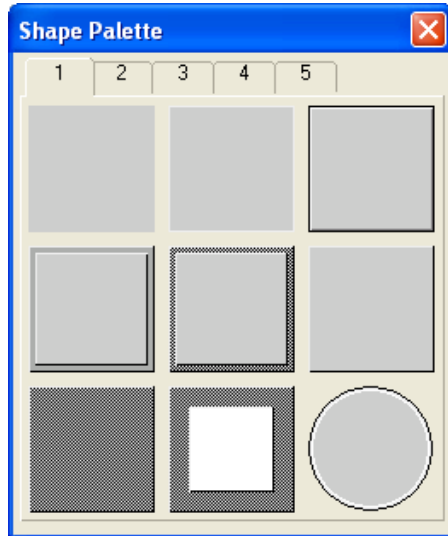
In an object’s property dialog box, you can click the shape button  to bring up the Shape palette. With the Shape palette, you can select a graphical shape as the shape of the associated object.

#### ■ Shape Palette

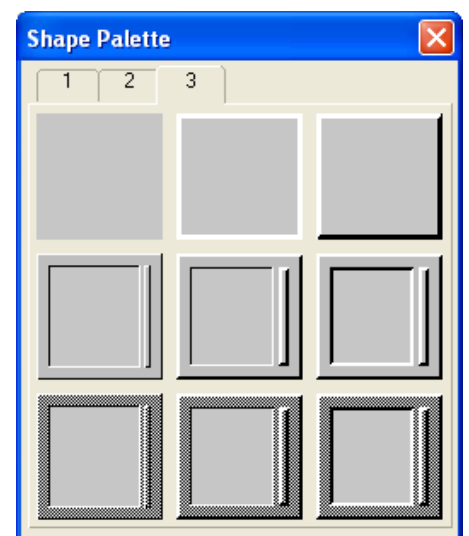
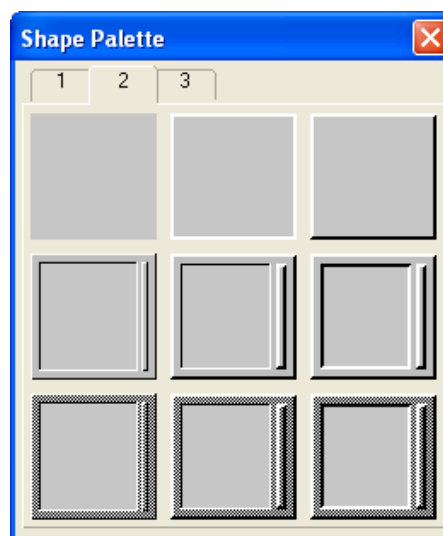
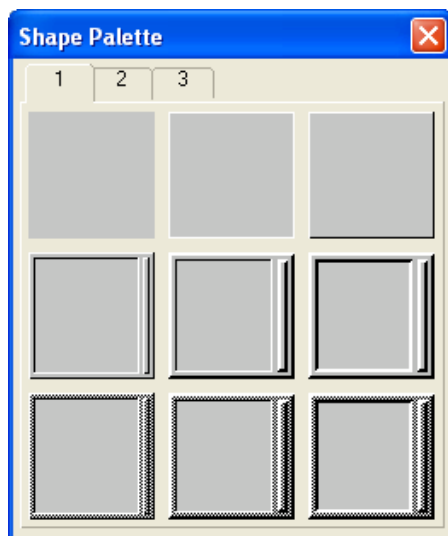
With the Shape palette, you can select a graphical shape for an object. Usually, you click  to bring up the Shape palette. The Shape palette contains several pages of graphical shapes. To select a graphical shape, click on that graphical shape. To select a page, click on that page’s number tab. To cancel the operation, click the close button  to close the Shape palette.

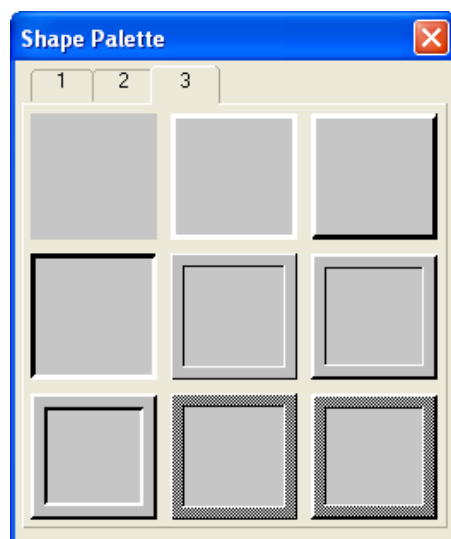
There are four sets of graphical shapes available for your applications. Each of them is suitable for certain kinds of objects. The Shape palette shows the set that is suitable for the type of object concerned. The four sets of shapes are shown below.

### Graphical shapes for buttons and switches

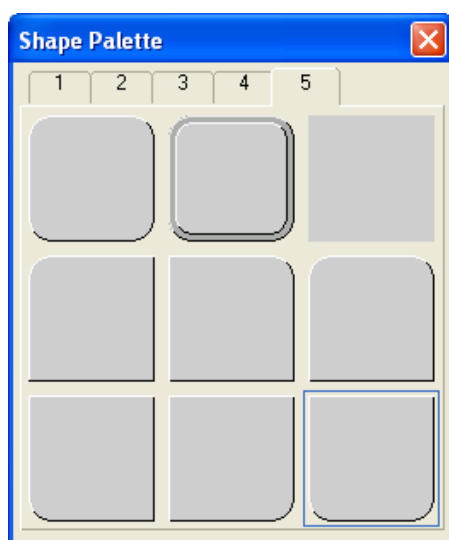


### Graphical shapes for data entry objects





## Graphical shapes for lamps

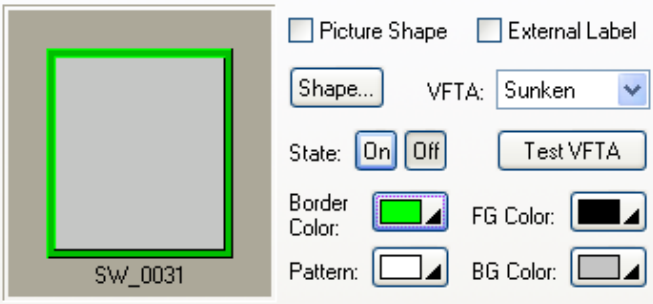
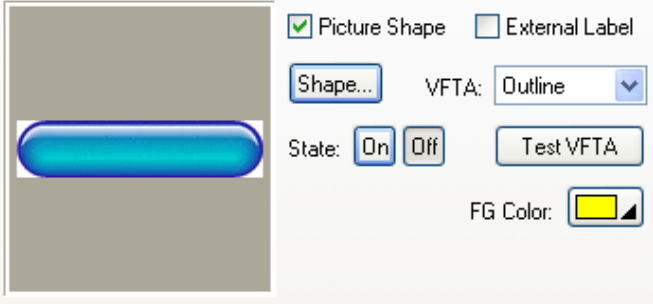


### 4.3.4. Setting up the Shape of an Object

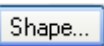
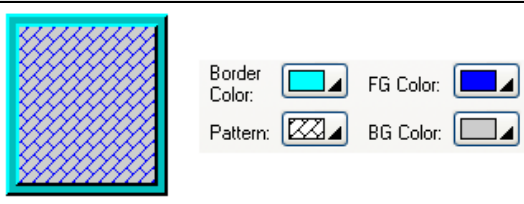
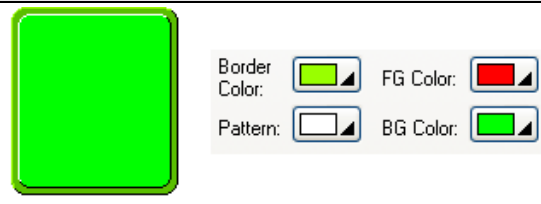
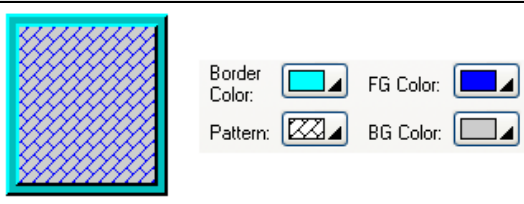
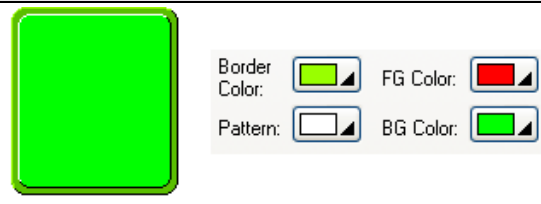
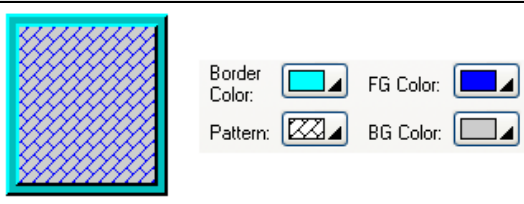
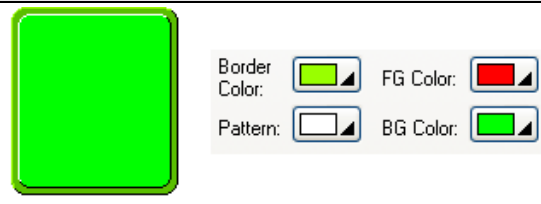
This section describes how to set the shape of an object.

In order to give the operator visual feedback for the touch action, most of the graphical shapes designed for touch operable objects can change their look when touched. The edge or border can look pressed or the outline can be shown with a different color.

The following examples are the shape settings of a bit button:

Example 1	Example 2
The graphical shape SW_0031 is selected.	The graphical shape is a picture.
	

The following table describes each property that may be required for the settings of an object's shape.

Property	Description				
Picture Shape	Check this option if you want the object to have a picture shape instead of a graphical shape. This option is available when the object can have a picture shape.				
	Click this button to specify the shape of the object. When Picture Shape is checked, the Select/Import from Library dialog box will display. Otherwise, the Shape palette will display.				
VFTA	The type of VFTA (Visual Feedback for Touch Action).				
Test VFTA	Click this button to view the selected VFTA.				
Border Color	The border color of the graphical shape. Click the corresponding Color icon to specify the color.				
Pattern	The pattern that is used to fill the area inside the border of the graphical shape for the current (object) state. To specify the pattern, click the corresponding Pattern icon and select a pattern from the Pattern palette. This item is available when the area inside the graphical shape needs be painted.				
FG Color	<p>The color that is used to paint the black part of the pattern for the current (object) state. When the solid white pattern is selected, this color is not used. When a picture shape is used, this color is used for the outline mode with VFTA.</p> <table> <tr> <th>Example 1</th><th>Example 2</th></tr> <tr> <td>  </td><td>  </td></tr> </table> <p>To specify the color, click the corresponding Color icon and select a color from the Color palette. This item is available when the area inside the graphical shape needs be painted.</p>	Example 1	Example 2		
Example 1	Example 2				
					
BG Color	The color that is used to paint the white part of the pattern for the current object state. To specify the color, click the corresponding Color icon and select a color from the Color palette. This item is available when the area inside the graphical shape needs be painted.				

### 4.3.5. Label Settings

This section describes how to set up the inner label for the following types of objects:

Bit Button, Toggle Switch, Screen Button, Function Button, Word Button, Keypad Button, and Bit Lamp.

The property sheets of the above mentioned objects provide you with the Label page to set up the inner label. If an object only has one state, the Label page has the Text sub-page and the Picture sub-page for you to set up the text and the picture of the inner label respectively. If an object has two states, the Label page has the following four sub-pages:

Sub-page	For Setting
OFF Text	Text of state 0 (Off)
OFF Picture	Picture of state 0 (Off)
ON Text	Text of state 1 (On)
ON Picture	Picture of state 1 (On)

You can use the Label page to set the inner label of an object that can have at most two states.

The following is an example of the Label page.

The screenshot shows the 'Label' page of a software interface. It has four tabs: 'General', 'Label', 'Advanced', and 'Visibility'. The 'Label' tab is selected. Inside the 'Label' tab, there are two sub-tabs: 'Text' and 'Picture'. The 'Text' sub-tab is active. The 'Text' sub-tab contains a text area with the word 'START'. Below the text area is a 'Copy from Note' button. Further down are settings for 'Font' (set to 'Font\_2'), 'Color' (a black color swatch), 'Blink' (set to 'Yes (Text On/Off)'), 'Char. Spacing' (set to 0), 'Line Spacing' (set to 0), and 'Shape BG Color' (a gray color swatch). At the bottom right of the 'Text' sub-tab is a 'Position' grid with a 3x3 arrangement of circles, with the center circle highlighted in green. The 'Picture' sub-tab is currently inactive.

The following table describes only the properties in the Label page that are common to all its sub-pages. The properties of each of its sub-pages are described in the specific section about each sub-page.


Property	Description
Language	The language that you are setting the text for.
Border Spacing	The margin (in pixels) to the border of the object's shape for both the text body and picture.
Use the text of the first language for all other languages	Check this item so the inner label always shows the text of the first language regardless of what the current language is.
Text tab	Click this tab to bring up the Text sub-page.
Picture tab	Click this tab to bring up the Picture sub-page.
OFF Text tab	Click this tab to bring up the OFF Text sub-page.
ON Text tab	Click this tab to bring up the ON Text sub-page.
OFF Picture tab	Click this tab to bring up the OFF Picture sub-page.
ON Picture tab	Click this tab to bring up the ON Picture sub-page.

#### 4.3.5.1. Text Sub-page Settings

You can use the Text sub-page, OFF Text sub-page, and ON Text sub-page to set up the text of the inner label for each of the corresponding states, as well as the current language. The language being set is specified by the Language item in the Label page.

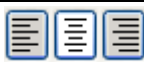

The following are examples of the Text pages:

The following table describes each property in the Text sub-page, OFF Text sub-page, and ON Text sub-page.

Property	Description
Copy from Note	Click this button to replace the current text by the text of Note in the General page.
Copy to ON State	Click this button to use the current text to replace the text of ON state.
Copy to OFF State	Click this button to use the current text to replace the text of OFF state.
Font	The font of the text. You can use the drop-down list to select a font. Click  to bring up the Font Templates dialog box and select a font for the text. You can change the font templates before selecting a font in that dialog box.
Color	The color of the text. To specify the color, click the corresponding Color icon and select a color from the Color palette.
Blink	Check this item so the text will blink. You have blink effects to choose from. Color switching changes the color of the text from its original color to the color of the background. Text On/Off displays and hides the text.
Transparent	Check this item to make the background of the characters transparent.
BG Color	The background color of the text.

Continued

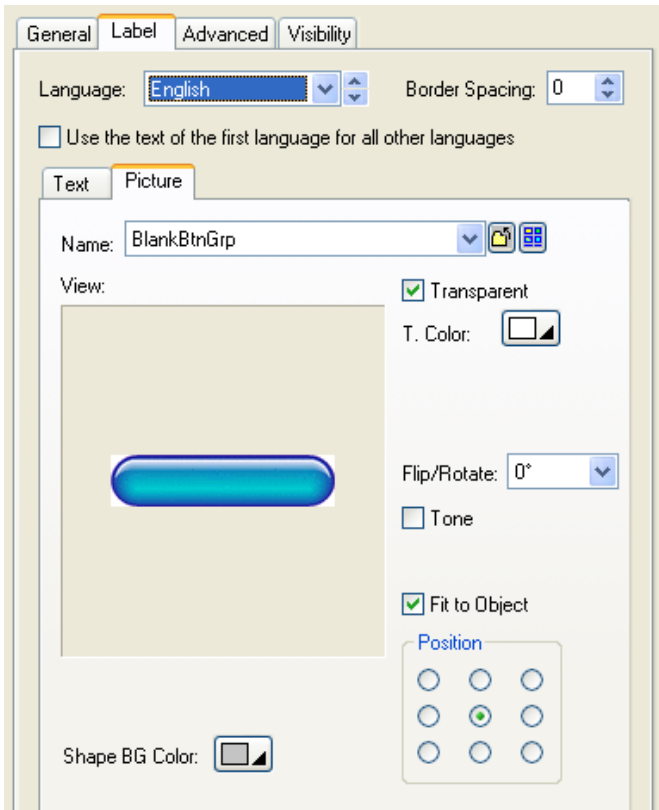
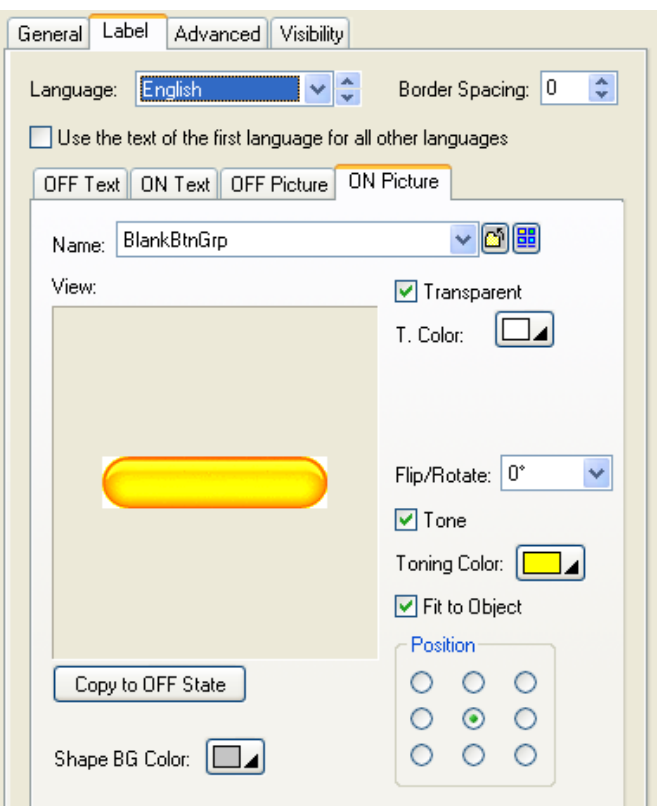


Property	Description
Line Spacing	The distance (in pixels) between two adjacent lines of the text.
Character Spacing	The distance (in pixels) between two adjacent characters of the text.
	The alignment of the text.
Position 	The position of the text body.
Shape BG Color	The BG color of the object's shape for the current state.
Copy Attributes to ON State	Click this button to use the current attributes to replace the text of ON state.
Copy Attributes to OFF State	Click this button to use the current attributes to replace the text of OFF state.




#### 4.3.5.2. Picture Sub-page Settings

You can use the Picture sub-page, OFF Picture sub-page, and ON Picture sub-page to set up the picture of the inner label for the corresponding states.

The following are examples of the Picture pages:

Picture sub-page	ON Picture sub-page.
	

The following table describes each property in the Picture sub-page, OFF Picture sub-page, and ON Picture sub-page.

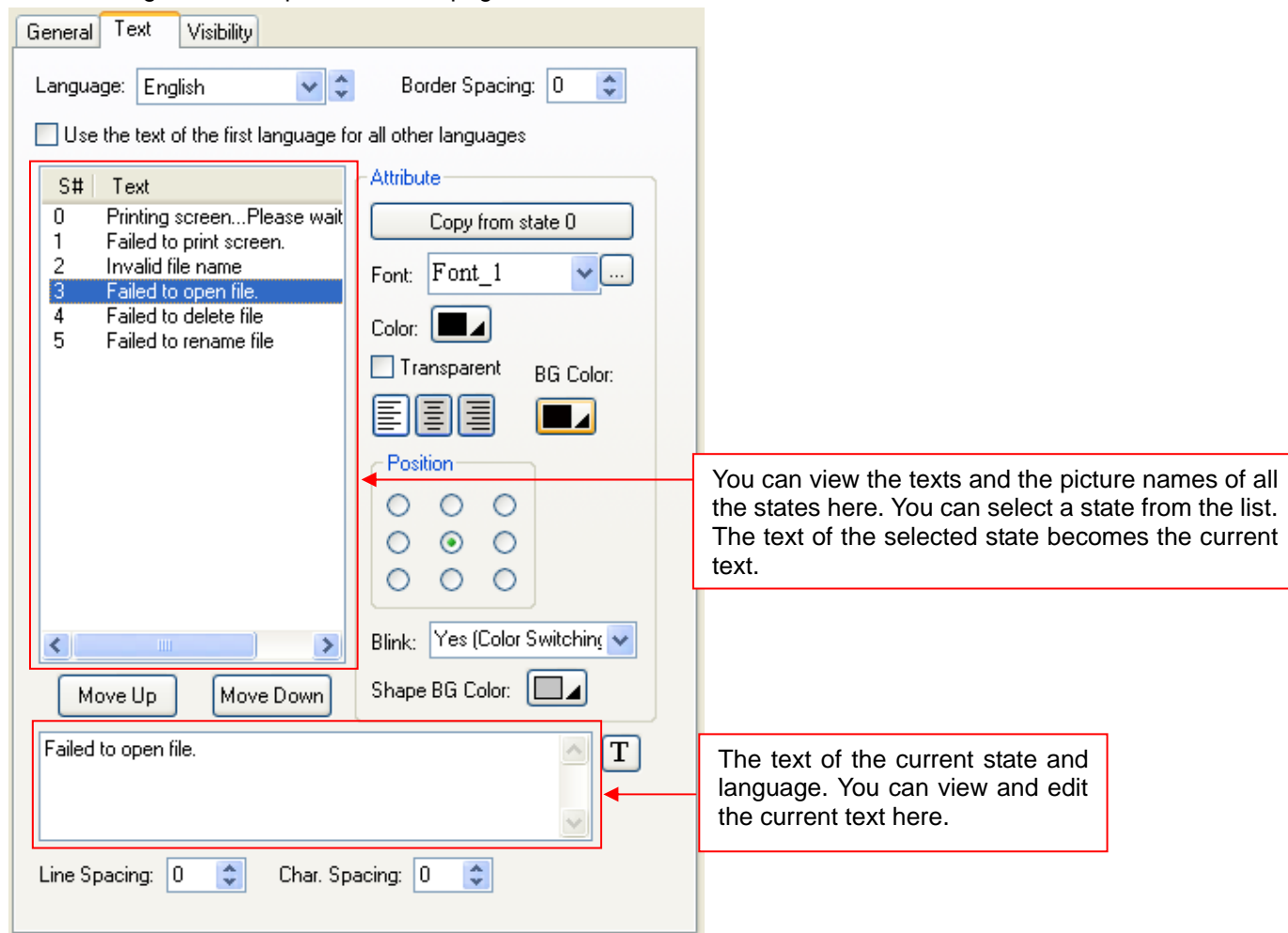
Property	Description																		
Name	<p>The name of the picture. You can use the drop-down list to select a picture from the picture database.</p> <p>Click  to select a picture file. After the selection, the picture of the selected file is imported and saved in the picture database.</p> <p>Click  to bring up the Select/Import from Library dialog box. Select a picture from a picture library file. After the selection, the selected picture is imported and saved in the picture database.</p>																		
Copy to OFF State	Click this button to use the current picture to replace the picture of OFF state.																		
Copy to ON State	Click this button to use the current picture to replace the picture of ON state.																		
Transparent	Check this item to make parts of the picture transparent. The transparent parts are pixels whose colors are the same as the specified transparent color. This item is available when the picture is not a black and white picture.																		
T. Color	The transparent color.																		
FG Color	The color to paint the black part of a black and white picture. This item is available when the picture is a black and white picture.																		
BG Color	The color to paint the white part of a black and white picture. This item is available when the picture is a black and white picture.																		
Flip/Rotate	<p>Specifies the method to flip or rotate the picture before drawing it. There are 8 options:</p> <table border="1"> <thead> <tr> <th>Method</th><th>Description</th></tr> </thead> <tbody> <tr> <td>0°</td><td>No rotation</td></tr> <tr> <td>90°</td><td>Rotates the picture clockwise by 90 degrees</td></tr> <tr> <td>180°</td><td>Rotates the picture clockwise by 180 degrees</td></tr> <tr> <td>270°</td><td>Rotates the picture clockwise by 270 degrees</td></tr> <tr> <td>X</td><td>Flips the picture over the X axis</td></tr> <tr> <td>90° &amp; X</td><td>Rotates the picture clockwise by 90 degrees and flips it over the X Axis</td></tr> <tr> <td>Y</td><td>Flips the picture over the Y axis</td></tr> <tr> <td>90° &amp; Y</td><td>Rotates the picture clockwise by 90 degrees and flips it over the Y Axis</td></tr> </tbody> </table>	Method	Description	0°	No rotation	90°	Rotates the picture clockwise by 90 degrees	180°	Rotates the picture clockwise by 180 degrees	270°	Rotates the picture clockwise by 270 degrees	X	Flips the picture over the X axis	90° & X	Rotates the picture clockwise by 90 degrees and flips it over the X Axis	Y	Flips the picture over the Y axis	90° & Y	Rotates the picture clockwise by 90 degrees and flips it over the Y Axis
Method	Description																		
0°	No rotation																		
90°	Rotates the picture clockwise by 90 degrees																		
180°	Rotates the picture clockwise by 180 degrees																		
270°	Rotates the picture clockwise by 270 degrees																		
X	Flips the picture over the X axis																		
90° & X	Rotates the picture clockwise by 90 degrees and flips it over the X Axis																		
Y	Flips the picture over the Y axis																		
90° & Y	Rotates the picture clockwise by 90 degrees and flips it over the Y Axis																		
Tone	Check this item to tone the picture.																		
Toning Color	The color to tone the picture.																		
Fit to Object	Check this item so the picture can change its size automatically to fit inside the border of the object's shape.																		
Position	<p></p> <p>The position of the picture within the object.</p>																		
Shape BG Color	The BG color of the object's shape for the current state.																		

### 4.3.6. Text Settings

This section describes how to set up the text of the inner label for the following types of objects:

Multi-state Switch, Radio Button Group, Step Button, Page Selector, Multi-state Lamp, Message Display, and Day-of-week Display.


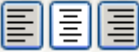
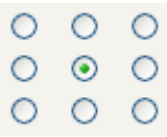




The property sheets of the above mentioned objects provide you with the Text page to set up the text of the inner label. The following is an example of the Text page.



The following table describes each property in the Text page.

Property	Description
Language	The language that you are setting the text to.
Border Spacing	The margin (in pixels) of the border for the text body to the object's shape.
Use the text of the first language for all other languages	Check this item so the inner label always shows the text of the first language regardless of what the current language is.
<State list>	Lists all states and the corresponding texts. To view and modify the state attribute and its text, click the row of that state.
Move Up	Click this button to move the current text (and picture) up the list, and thus the associated state number of the current text (and picture) is decreased by one.
Move Down	Click this button to move the current text (and picture) down the list, and thus the associated state number of the current text (and picture) is increased by one.

Continued

Property		Description
Copy to all states...		Click this button to use the text of state 0 to replace the text of all other states.
Copy from state 0...		Click this button to use the text of state 0 to replace the current text.
Font		The font of the current text. You can use the drop-down list to select a font. Click  to bring up the Font Templates dialog box and select a font for the current text. You can change the font templates before selecting a font from the dialog box.
Color		The color of the current text. To specify the color, click the corresponding Color icon and select a color from the Color palette.
Transparent		Check this item to make the text's background transparent.
BG Color		The background color of the text.
		The alignment of the text.
Position 		The position of the text body.
Blink		Select blink effects to make the text blink. Color switching changes the color of the text from its original color to the color of the background. Text On/Off displays and hides the text.
Shape BG Color		The BG color of the object's shape for the current state.
Text	<Edit Box> / <Combo Box>	The text for the selected state in current language.
	 / 	Click  to view and edit the text for the selected language in this edit box, or click  to select a text from dropdown text table that lists all the texts from Text Database. You can change the text database before selecting a text.
Line Spacing		The distance (in pixels) between two adjacent lines of the text.
Character Spacing		The distance (in pixels) between two adjacent characters of the text.

### 4.3.7. Picture Settings

This section describes how to define the picture settings for the following types of objects:

Multi-state Switch, Radio Button Group, Step Button, Page Selector, Multi-state Lamp, Picture Display, and Animated Graphic.

The property sheets of the above mentioned objects provide you the Picture page to define the picture settings of the objects. The following is an example of the Picture page.

**General** **Text** **Picture** **Visibility**

S#	Text	Picture Name
0		cn3
1	NO GO	cn11
2	GO	cn6

Border Spacing: 0

Attribute

Picture: cn6

☐ Transparent

Flip/Rotate: 0°

☐ Tone

☐ Fit to Object

Position

Shape BG Color:



Move Up Move Down

You can view the picture names and the texts of all the states here. You can select a state from the list. The picture of the selected state becomes the current picture.


Click [Move Up] to move the current picture (and text) up in the list and thus the associated state number of the current picture (and text) is decreased by one.

Click [Move Down] to move the current picture (and text) down in the list and thus the associated state number of the current picture (and text) is increased by one.

The following table describes each property in the Picture page.

Property	Description
Picture	<p>The name of the current picture. You can use the drop-down list to select a picture from the picture database.</p> <p>Click  to select a picture from a file as the current picture. After the selection, the software imports the picture of the selected file and saves the picture in the picture database.</p> <p>Click  to bring up the Select/Import from Library dialog box. Select a picture from a picture library file as the current picture. After the selection, the software imports the selected picture from the selected library and saves the picture in the picture database.</p>

Continued

Property	Description																		
Transparent	Check this item to make parts of the current picture transparent. The transparent parts are pixels whose colors are identical to the specified transparent color. This item is available when the current picture is not a black and white picture.																		
Transparent Color	The transparent color.																		
FG Color	The color to paint the black part of a black and white picture. This item is available when the current picture is a black and white picture.																		
BG Color	The color to paint the white part of a black and white picture. This item is available when the current picture is a black and white picture.																		
Flip/Rotate	<p>Specifies the method to flip or rotate the current picture before drawing it. There are 8 options:</p> <table> <tr> <th>Method</th><th>Description</th></tr> <tr> <td>0°</td><td>No rotation</td></tr> <tr> <td>90°</td><td>Rotates the picture clockwise by 90 degrees</td></tr> <tr> <td>180°</td><td>Rotates the picture clockwise by 180 degrees</td></tr> <tr> <td>270°</td><td>Rotates the picture clockwise by 270 degrees</td></tr> <tr> <td>X</td><td>Flips the picture over the X axis</td></tr> <tr> <td>90° &amp; X</td><td>Rotates the picture clockwise by 90 degrees and flips it over the X Axis</td></tr> <tr> <td>Y</td><td>Flips the picture over the Y axis</td></tr> <tr> <td>90° &amp; Y</td><td>Rotates the picture clockwise by 90 degrees and flips it over the Y Axis</td></tr> </table>	Method	Description	0°	No rotation	90°	Rotates the picture clockwise by 90 degrees	180°	Rotates the picture clockwise by 180 degrees	270°	Rotates the picture clockwise by 270 degrees	X	Flips the picture over the X axis	90° & X	Rotates the picture clockwise by 90 degrees and flips it over the X Axis	Y	Flips the picture over the Y axis	90° & Y	Rotates the picture clockwise by 90 degrees and flips it over the Y Axis
Method	Description																		
0°	No rotation																		
90°	Rotates the picture clockwise by 90 degrees																		
180°	Rotates the picture clockwise by 180 degrees																		
270°	Rotates the picture clockwise by 270 degrees																		
X	Flips the picture over the X axis																		
90° & X	Rotates the picture clockwise by 90 degrees and flips it over the X Axis																		
Y	Flips the picture over the Y axis																		
90° & Y	Rotates the picture clockwise by 90 degrees and flips it over the Y Axis																		
Tone	Check this item to tone the current picture.																		
Toning Color	The color to tone the current picture.																		
Fit to Object	Check this item so the current picture can change its size automatically to fit inside the border of the object's shape.																		
Position	<p>The position of the current picture within the object.</p> 																		
Shape BG Color	The BG color of the object's shape for the current state.																		

### 4.3.8. External Label Settings

This section describes how to set up the external label for the following types of objects:

Bit Button, Toggle Switch, Screen Button, Slide Switch, Word Button, Multi-state Switch, Radio Button Group, Step Button, Numeric Entry, Numeric Display, Advanced Numeric Display, ASCII String Entry, ASCII String Display, Bit Lamp, Multi-state Lamp, Message Display, Picture Display, and Bar Graph.






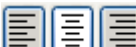
You can use the External Label page of an object's property sheet to set up the external label of that object. The following is an example of the External Label page.

The screenshot shows the 'External Label' tab of a property sheet. It includes a 'Plate Style' dropdown set to 'Outlined'. Under 'Position', 'Left' is selected. The 'Color' section has 'Border' set to red, 'Plate' to gray, and 'Text' to blue. 'Language' is set to 'English' and 'Font' is 'Times New Roman'. The 'Text' field contains 'Tank #1' and 'Temperature'. At the bottom, 'Spacing' settings for 'Border', 'Line', and 'Character' are all set to 0.

The following table describes each property in the External Label page.

Property	Description										
Plate Style	Specifies the plate type of the external label. There are four plate types as shown below:										
	<table><tr><th>Plate Type</th><th>Example</th></tr><tr><td>Transparent,</td><td><div>Tank #1 Temperature</div><div>999.9</div></td></tr><tr><td>Flat,</td><td><div>Tank #1 Temperature</div><div>999.9</div></td></tr><tr><td>Outlined</td><td><div>Tank #1 Temperature</div><div>999.9</div></td></tr><tr><td>Raised</td><td><div>Tank #1 Temperature</div><div>999.9</div></td></tr></table>	Plate Type	Example	Transparent,	<div>Tank #1 Temperature</div> <div>999.9</div>	Flat,	<div>Tank #1 Temperature</div> <div>999.9</div>	Outlined	<div>Tank #1 Temperature</div> <div>999.9</div>	Raised	<div>Tank #1 Temperature</div> <div>999.9</div>
	Plate Type	Example									
	Transparent,	<div>Tank #1 Temperature</div> <div>999.9</div>									
	Flat,	<div>Tank #1 Temperature</div> <div>999.9</div>									
	Outlined	<div>Tank #1 Temperature</div> <div>999.9</div>									
Raised	<div>Tank #1 Temperature</div> <div>999.9</div>										

Continued

Property		Description										
Position		Specifies the position of the external label relative to the object. There are four positions as shown below:										
		<table><tr><th>Position</th><th>Example</th></tr><tr><td>Top</td><td><div><div>Tank #1 Temperature</div><div>999.9</div></div></td></tr><tr><td>Left</td><td><div><div>Tank #1 Temperature</div><div>999.9</div></div></td></tr><tr><td>Right</td><td><div><div>999.9</div><div>Tank #1 Temperature</div></div></td></tr><tr><td>Bottom</td><td><div><div>999.9</div><div>Tank #1 Temperature</div></div></td></tr></table>	Position	Example	Top	<div><div>Tank #1 Temperature</div><div>999.9</div></div>	Left	<div><div>Tank #1 Temperature</div><div>999.9</div></div>	Right	<div><div>999.9</div><div>Tank #1 Temperature</div></div>	Bottom	<div><div>999.9</div><div>Tank #1 Temperature</div></div>
		Position	Example									
		Top	<div><div>Tank #1 Temperature</div><div>999.9</div></div>									
		Left	<div><div>Tank #1 Temperature</div><div>999.9</div></div>									
		Right	<div><div>999.9</div><div>Tank #1 Temperature</div></div>									
Bottom	<div><div>999.9</div><div>Tank #1 Temperature</div></div>											
Color	Border	The border color of the plate. To specify the color, click the corresponding Color icon and select a color from the Color palette.										
	Plate	The color of the plate. To specify the color, click the corresponding Color icon and select a color from the Color palette.										
	Text	The color of the text. To specify the color, click the corresponding Color icon and select a color from the Color palette.										
Language		The language that you are setting the text to.										
Font	<Drop-down List>	The font of the text for the current language										
		Click this button to bring up the Font Templates dialog box and select a font for the text. You can change the font templates before selecting a font in that dialog box.										
Text	<Edit Box> / <Combo Box>	The text for the current language.										
	 / 	Click  to view and edit the text for the selected language in this edit box, or click  to select a text from dropdown text table that lists all the texts from Text Database. You can change the text database before selecting a text.										
		The alignment of the text.										
Spacing	Border	The distance (in pixels) between the plate border and the text body.										
	Line	The distance (in pixels) between two adjacent lines of the text.										
	Character	The distance (in pixels) between two adjacent characters of the text.										



## 4.4. Setting up Objects

### 4.4.1. States of Objects

When an object has multiple states, its appearance automatically has the same number of corresponding states. You need to specify the settings of the shape and the inner label of an object for each state. Usually the state of an object is determined by the value of the variable it monitors. An object that monitors a bit has state 0 (off) and state 1 (on). An object that monitors a word or a double-word can have up to 256 states.

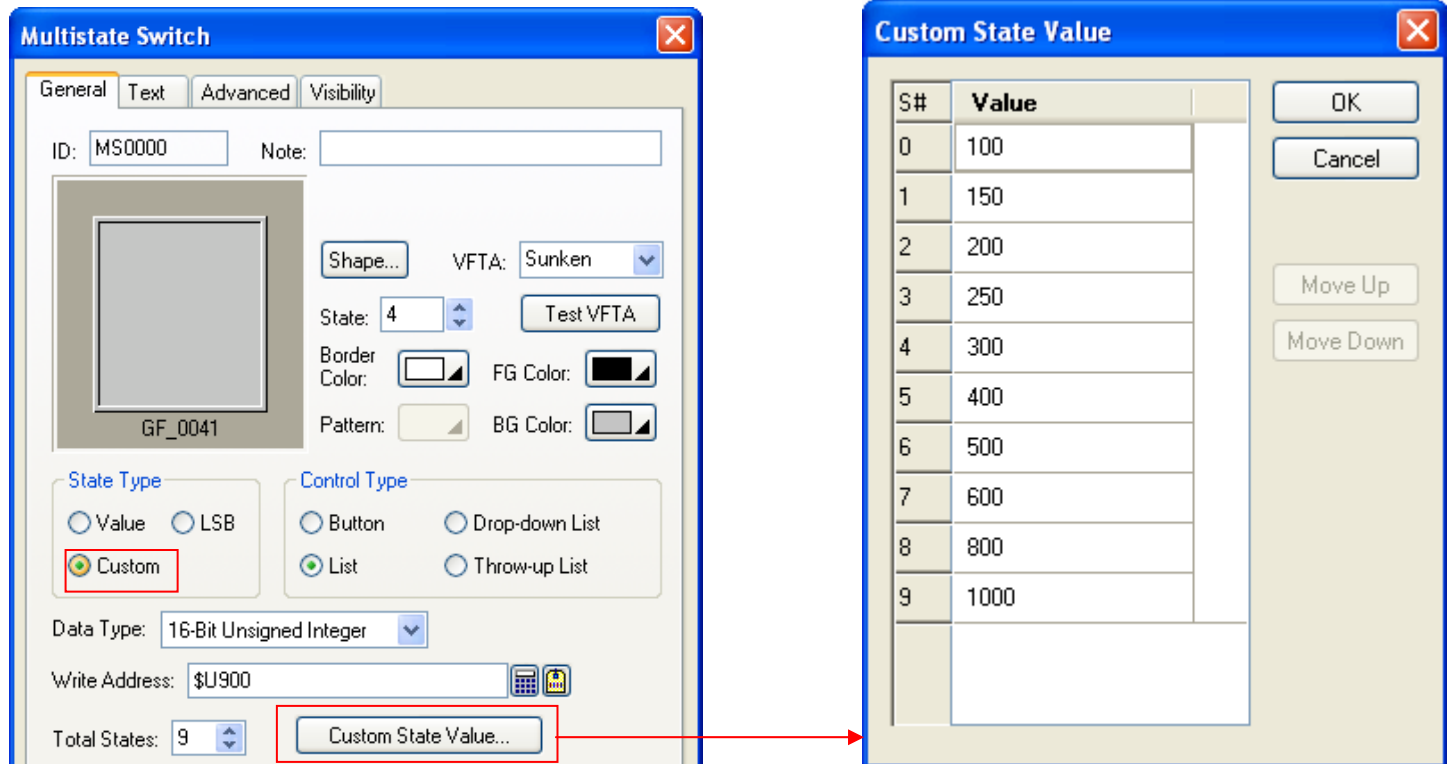
#### 4.4.1.1. State Types

You need to specify the state type of an object so the object knows how to determine its state. The following table describes each of the four state types.

State Type	For	How to decide the state
Bit	Bit Variable	The state is the value of the variable. <b>Example:</b> 1)The state of \$U1.3 is 0 when \$U1.3 is 0 (off). 2)The state of WX3.f is 1 when WX3.f is 1 (on).
Value	Word Variable, Double-word Variable	The state is the value of the variable. The valid states are from 0 to 255. <b>Example:</b> 1)The state of \$U200 is 123 when \$U200 is 123. 2)The state of WX20 is 0 when WX20 is 0. 3)The state of \$N300 is invalid when \$N300 is 999.
LSB	Word Variable, Double-word Variable	The state is the number of the least significant bit of the variable's value that is 1 (on). For a word variable, the valid state are from 0 to 16 and state 16 means all the bits are 0. For a double-word variable, the valid state are from 0 to 32 and state 32 means all the bits are 0. <b>Example:</b> 1)The state of \$U200 is 1 when \$U200 is 246H. 2)The state of WX20 is 19 when WX20 is 80000H. 3)The state of \$N300 is 16 when \$N300 is 0.
Custom	Word Variable, Double-word Variable	When you configure an object with the Custom state type, you assign each valid state a unique number which is called a state value. The assigned state values will be used to determine the state of the object. If the variable's value is equal to one of the state values, the corresponding state of the state value is the state of the object. If the value is equal to none of the state values, the state is invalid. <b>Example:</b> An object monitors \$U100 and its state type is Custom. There are three valid states and you assigned 300, 200, and 100 to state 0, 1, and 2 respectively. The state is 2 when \$U100 is 100 and the state is 0 when \$U100 is 300.

#### 4.4.1.2. Setting the Custom States of an Object

In the General page of the object's property dialog box, with the Custom state type selected, click the Custom State Value... button to bring up the Custom State Value dialog box as the example shown below.



You can assign a positive integer for each state in the dialog box. To edit the value, click the row of that state under the value column.

You can use the Move Up button and the Move Down button to adjust the position of state values. To move up or move down the state values, you need to make a selection first. To select a state, click the header column. To select multiple rows, click the header column and use Ctrl+Click to add a row to the selection.

#### 4.4.2. Operation Options of Objects

The following table explains operation options which can be added to an object to make it more informative, secure, and useful.

Terminology	Definition
Enabling and disabling the touch operation	<p>The touch operation can be enabled and disabled either by a specified bit or by the current user level. You can choose to display the touch operation disabled sign on the button when the touch operation is disabled.</p> <p>If the touch operation is to be enabled by a bit, you need to specify that bit and the bit value that enables the touch operation.</p> <p>If the touch operation is to be enabled by the current user level, you need to specify the lowest user level that is required to enable the touch operation.</p> <p>Select and set this feature in the Advanced page of the Bit Button dialog box.</p>
Requiring the minimum hold time	<p>The touch operation will not be activated until the button is pressed and held down for the specified Minimum Hold Time.</p> <p>Select and set this feature in the Advanced page of the Bit Button dialog box.</p>
Requiring the operator confirmation	<p>A confirmation dialog box is displayed when the button is activated for setting a bit. The button will proceed to set that bit if the operator selects “Yes” to confirm the operation. The touch operation will be cancelled if the operator selects “No” to reject the operation or if the operator does not respond within the Maximum Waiting Time.</p> <p>This feature is available for the following operations: Set ON, Set OFF, Set ON Pulse, Set OFF Pulse, and Invert.</p> <p>Select and set this feature in the Advanced page of the Bit Button dialog box.</p>
Notifying a bit of the touch operation	<p>The notification is performed after the touch operation is done. You need to specify the bit to be notified and the bit value to be used for the notification.</p> <p>Select and set this feature in the Advanced page of the Bit Button dialog box.</p>
Logging the touch operations	<p>The time and date when the touch operation occurs, the new value that is written to the bit, and the predefined text can be recorded in the operation log with this feature.</p> <p>Select and set this feature in the Advanced page of the Bit Button dialog box.</p>
Showing and hiding an object	<p>The visibility of an object can be controlled either by a specified bit or by the current user level, i.e. an object can be shown and hidden dynamically by any of these two methods.</p> <p>If visibility is to be controlled by a bit, you need to specify that bit and the bit value that shows the object.</p> <p>If visibility is to be controlled by the current user level, you need to specify the lowest user level that is required to show the visibility.</p> <p><b>Note 1:</b> When an object is invisible, the touch operation is automatically disabled. <b>Note 2:</b> It is allowed to simply set an object as invisible. The touch operation is still enabled with this setting.</p> <p>Select and set this feature on the Visibility page of the object setting dialog box.</p>

### 4.4.3. Address Settings


This chapter describes the terms, rules, and methods to address data.














#### 4.4.3.1. Terminologies for Data Accessing

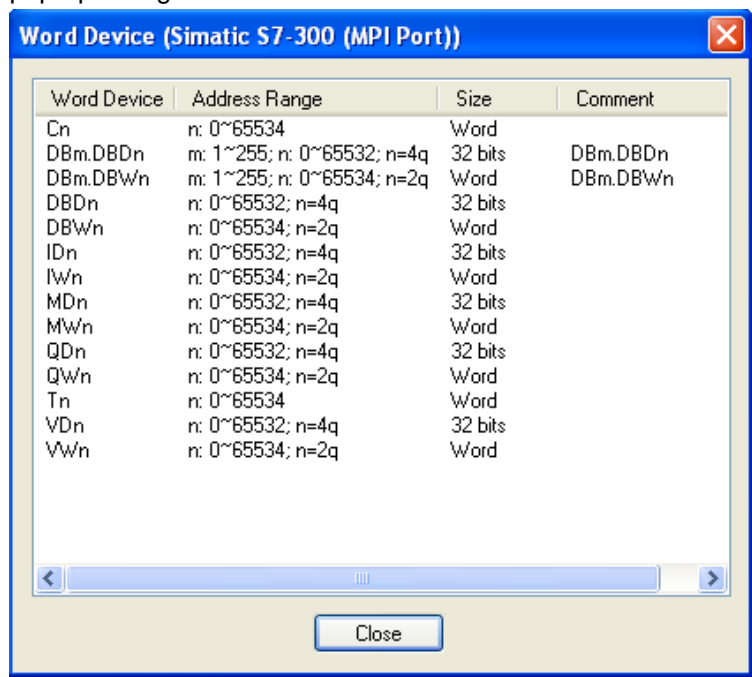
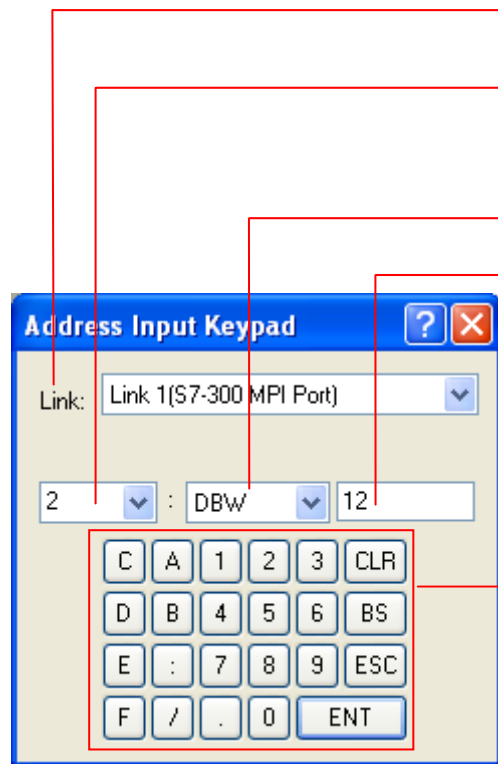
The following table explains variables, addresses and tags.

Terminology	Definition
Internal memory	The memory space in the target panel that can be accessed by the panel application. For example, the user memory \$U, the non-volatile memory \$N, the system memory \$S, and the recipe memory \$R are all parts of the internal memory.
Internal variable	An address or a tag referring to an address of a space in the internal memory.
Internal bit variable	An internal variable that refers to a bit in the internal memory.  <b>Note:</b> “Internal variable” instead of “internal bit variable” is used when referring to a bit if there is no ambiguity.
Internal word variable	An internal variable that refers to a word in the internal memory. The variables can also be used to refer to a double-word, a block of bytes (byte array), a block of words (word array), and a block of double-words (double-word array).  <b>Note:</b> “Internal variable” instead of “internal bit variable” is used when referring to a bit if there is no ambiguity.
External memory	The memory spaces or the collections of addressable devices in the controllers that can be accessed by the panel application through communication links.
External variable	An address or a tag referring to an address of a space in the external memory.
External bit variable	An external variable that refers to a bit in the external memory.  <b>Note:</b> “External variable” instead of “external bit variable” is used when referring to a bit if there is no ambiguity.
External word variable	An external variable that refers to a word in the external memory. The variables can also be used to refer to a double-word, a block of bytes (byte array), a block of words (word array), and a block of double-words (double-word array) if the access unit of the associated addresses is word. If the access unit is double-word, you can only use the variable to refer to a double-word or a block of memory space with a length of a multiple of 4 (bytes).  <b>Note:</b> “External variable” instead of “external bit variable” is used when referring to a bit if there is no ambiguity.
Variable	An internal variable or an external variable.
Bit variable	An internal bit variable or an external bit variable.
Word variable	An internal word variable or an external word variable.
Double-word variable	An internal variable or an external variable that refers to a double-word.
Byte array variable	An internal variable or an external variable that refers to a byte array.
Word array variable	An internal variable or an external variable that refers to a word array.
Double-word array variable	An internal variable or an external variable that refers to a double-word array.
Tag	A name that stands for an address of the internal memory or the external memory. It also specifies the data type and scan rate of the data in the memory location it refers to.


#### 4.4.3.2. Address Input Keypad

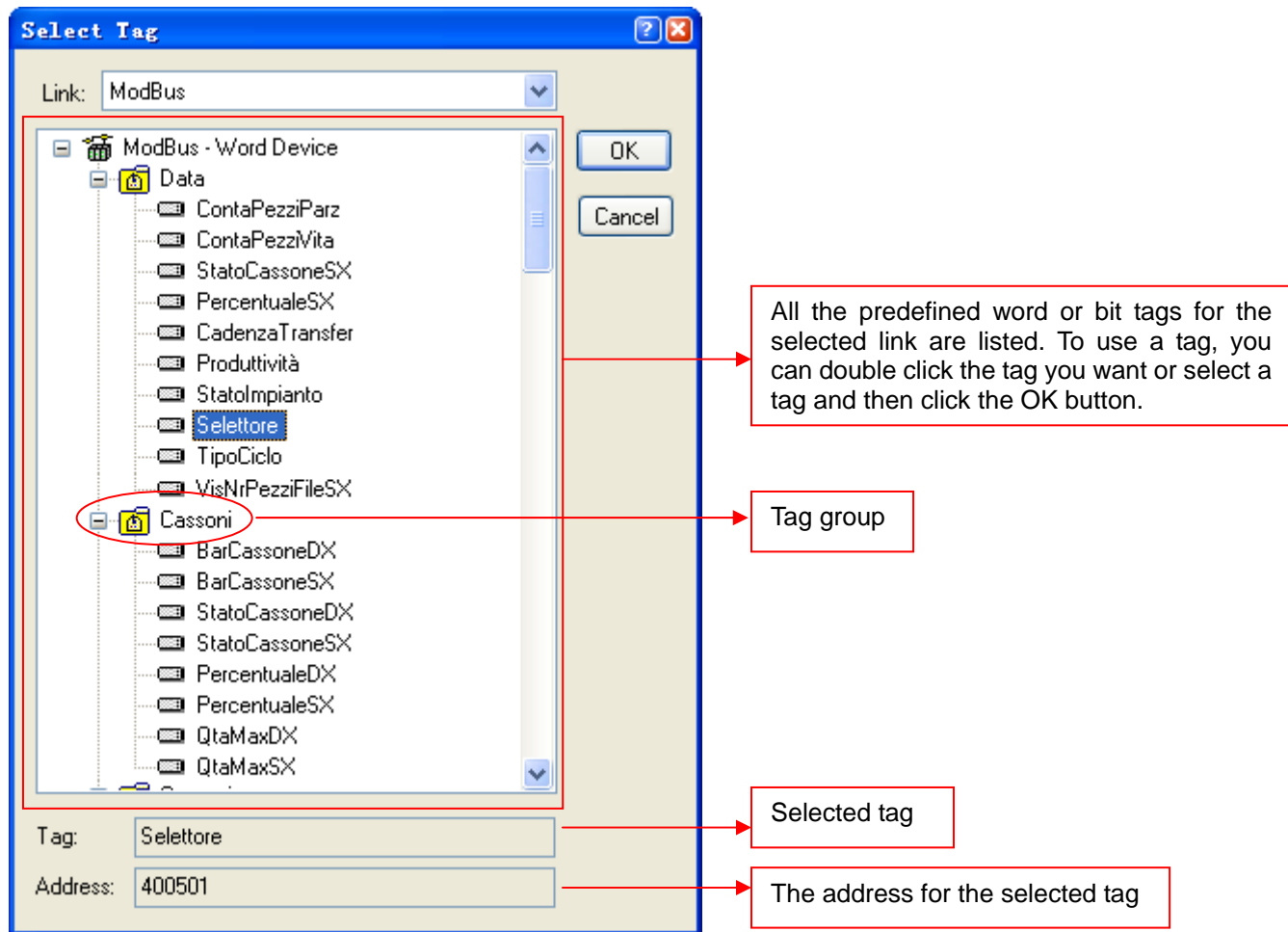
With the address input keypad, you can enter an address easily. Usually, you click  to bring up the address input keypad as shown below.

Property	Description												
Link	Click the down arrow and select a link from the drop down list.												
PLC Address	Click the down arrow and select a value between 0 and 255 or an indirect address between [\$I0] and [\$I15] as the PLC Address. If an indirect address is used, the plc address can be dynamically changed.												
Location Type	Click the down arrow and select an item from the drop down list as the location type.												
Address	Specify the address.												
Input keypad	<table> <tr> <th data-bbox="758 763 901 797">Buttons</th><th data-bbox="901 763 1503 797">Description</th></tr> <tr> <td data-bbox="758 797 901 864"></td><td data-bbox="901 797 1503 864">Clears all the texts in the address field.</td></tr> <tr> <td data-bbox="758 864 901 965"></td><td data-bbox="901 864 1503 965">Deletes all selected texts, if any, or the text character to the left of the cursor in the address field.</td></tr> <tr> <td data-bbox="758 965 901 1043"></td><td data-bbox="901 965 1503 1043">Cancels the address input and escapes the dialog.</td></tr> <tr> <td data-bbox="758 1043 901 1099"></td><td data-bbox="901 1043 1503 1099">Checks and enters the address if valid.</td></tr> <tr> <td data-bbox="758 1099 901 1178">Others</td><td data-bbox="901 1099 1503 1178">Click to specify the address. Only available when the Address field holds the input focus.</td></tr> </table>	Buttons	Description		Clears all the texts in the address field.		Deletes all selected texts, if any, or the text character to the left of the cursor in the address field.		Cancels the address input and escapes the dialog.		Checks and enters the address if valid.	Others	Click to specify the address. Only available when the Address field holds the input focus.
Buttons	Description												
	Clears all the texts in the address field.												
	Deletes all selected texts, if any, or the text character to the left of the cursor in the address field.												
	Cancels the address input and escapes the dialog.												
	Checks and enters the address if valid.												
Others	Click to specify the address. Only available when the Address field holds the input focus.												
	Click the help button to see how to specify word or bit devices and their addresses for the specified link in the following pop-up dialog.												



#### 4.4.3.3. Selecting Tags

To select a tag, you can click  to bring up the Select Tag dialog box as shown below.



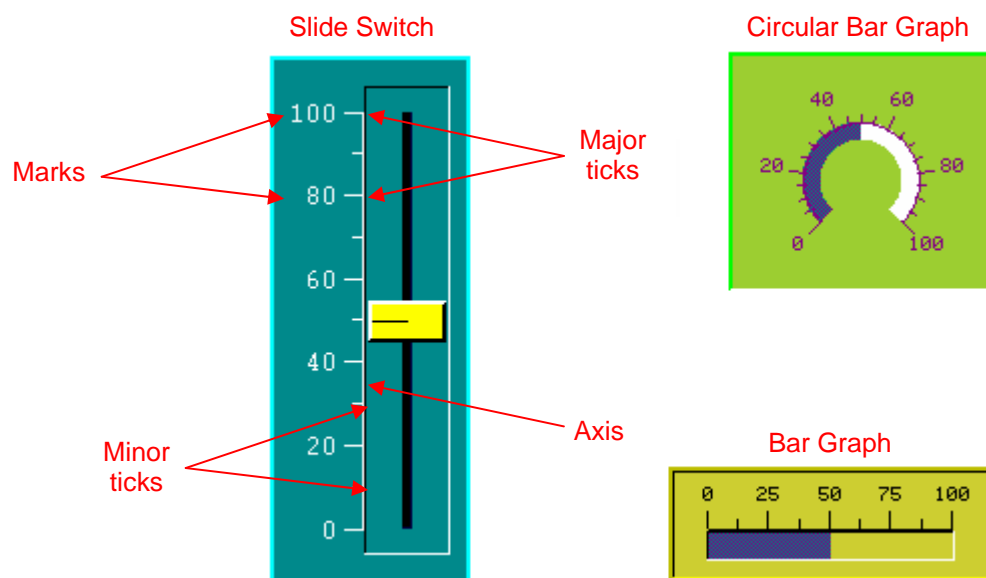
**Note:** All the listed tags and tag groups are created in the Tags Editor. To create a tag, please see [Section 2.3 Working with Tags](#).

#### 4.4.4. Scale Settings

This section describes how to set up the scale for the following types of objects:

Slide Switch, Bar Graph, Circular Bar Graph, and Meter.

The following are examples of scales used in different kinds of objects.



You can use the Scale page in an object's property sheet to set up the scale of that object. The following is an example of the Scale page of the bar Graph.

General **Scale** F. Marker B. Marker Advanced Visibility

☒ Scale

Position: ☒ Top ☐ Bottom

Color:

Number of Major Ticks: 5

Number of Sub Divisions: 2

☒ Axis

☒ Marks

Font: ☒ 6x8 ☐ 8x12

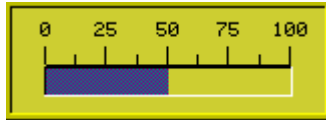
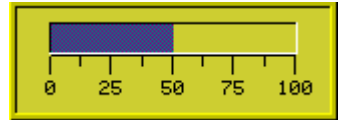
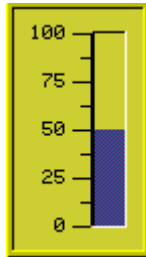
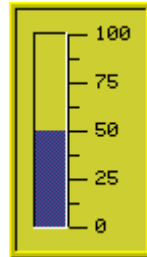

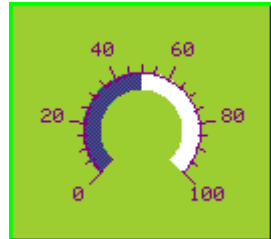
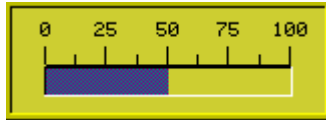
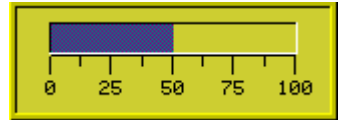
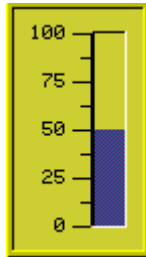
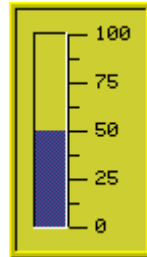

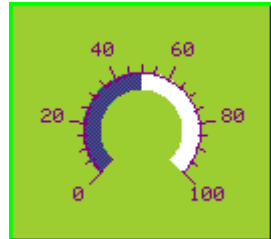
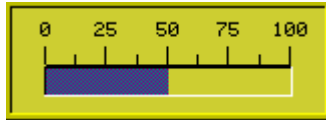
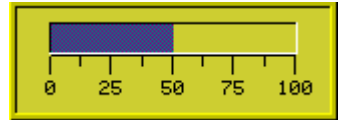
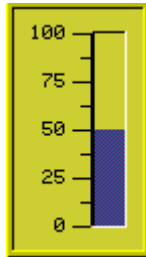
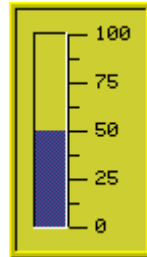

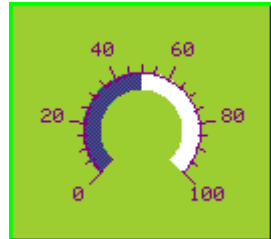
☐ Dynamic Range

Minimum: 0 Maximum: 100

Total Digits: 3

Fractional Digits: 0

The following table describes each property in the Scale page.

Property		Description																
Scale		Check this item if you want the object to have a scale.																
Position		Specifies the position of the scale in the object. The position is relative to the part of the object that displays the monitored variable. There are six positions shown below:																
		<table><tr><th>Position</th><th>Example</th><th>Position</th><th>Example</th></tr><tr><td>Top</td><td></td><td>Bottom</td><td></td></tr><tr><td>Left</td><td></td><td>Right</td><td></td></tr><tr><td>Inner</td><td></td><td>Outer</td><td></td></tr></table>	Position	Example	Position	Example	Top		Bottom		Left		Right		Inner		Outer	
		Position	Example	Position	Example													
		Top		Bottom														
		Left		Right														
		Inner		Outer														
Color		The color of the scale. To specify the color, click the corresponding Color icon and select a color from the Color palette.																
Number of Major Ticks		The number of major ticks. The minimum you can specify is two.																
Number of Sub Divisions		The number of divisions between two adjacent major ticks. The minimum you can specify is one.																
Axis		Check this item if you want the scale to have an axis.																
Marks	Marks	Check this option if you want the scale to have marks.																
	Font	The font of the marks.																
	Dynamic Range	Check this option if you want the minimum and maximum of the marks to be controlled by the dynamic range parameter block of the associated object at runtime.																
	Minimum	The minimum of the marks. It is a 32-bit integer.																
	Maximum	The maximum of the marks. It is a 32-bit integer.																
	Total Digits	The total digits to be displayed for the marks.																
	Fractional Digits	The number of fractional digits for the marks. For example, when the Maximum = 5000, the Total Digits = 4, and the Fractional Digits = 2, the mark for the Maximum will be 50.00.																



### 4.4.5. Advanced Settings

This section describes how to define the advanced settings for the following types of objects:



Bit Button, Toggle Switch, Screen Button, Function Button, Slide Switch, Word Button, Multi-state Switch, Radio Button Group, Step Button, Advanced Numeric Display, ASCII String Entry, and Recipe Selector.

You can use the Advanced page in an object's property sheet to define the advanced settings of that object.


The following are examples of the Advanced page for different objects:

For an advanced numeric display.	For a bit button.
<div> <div>General   Range   <b>Advanced</b>   Visibility   Output Macro</div> <div> <div>Touch Operation Control</div> <div> <input type="checkbox"/> Enabled by Bit           <input checked="" type="checkbox"/> Show Disabled Sign         </div> <div> <input checked="" type="checkbox"/> Enabled by User Level           Lowest Enabling User Level: 5         </div> <div> <input checked="" type="checkbox"/> Timeout           Timeout Time: 20 seconds         </div> <div> <input checked="" type="checkbox"/> Notification           Signal: <input checked="" type="radio"/> Level <input type="radio"/> Pulse           Bit: \$U9.0           State: <input type="radio"/> ON <input checked="" type="radio"/> OFF         </div> <div> <input checked="" type="checkbox"/> Operator Confirmation           Maximum Waiting Time: 5 seconds         </div> <div> <input type="checkbox"/> Operation Logging         </div> </div> </div>	<div> <div>General   Label   <b>Advanced</b>   Visibility</div> <div> <div>Touch Operation Control</div> <div> <input checked="" type="checkbox"/> Enabled by Bit           <input checked="" type="checkbox"/> Show Disabled Sign           Control Bit: W90.A           Enabling State: <input checked="" type="radio"/> ON <input type="radio"/> OFF           <input type="checkbox"/> Enabled by User Level         </div> <div>           Minimum Hold Time: 3 seconds         </div> <div> <input checked="" type="checkbox"/> Operator Confirmation           Maximum Waiting Time: 10 seconds         </div> <div> <input type="checkbox"/> Notification         </div> <div> <input checked="" type="checkbox"/> Operation Logging           Message: Start pump #3         </div> </div> </div>

The following table describes each property in the Advanced page.

Property		Description
Touch Operation Control	Enabled by Bit	Check this option so the touch operation of the numeric entry will be enabled and disabled by the specified bit.
	Control Bit	Specifies the bit that enables and disables the touch operation. Click  to enter a bit address. Click  to select a bit tag.
	Enabling State	Specifies the state (On or Off) that enables the touch operation.
	Enabled by User Level	Check this item so the touch operation of the numeric entry will be enabled and disabled by the current user level.
	Lowest Enabling User Level	Specifies the lowest user level that is required to enable the touch operation.
	Show Disabled Sign	Check this option so the touch operation disabled sign will be shown on the numeric entry when the touch operation is disabled.






















Continued

Property		Description	
Timeout	Timeout	Check this option so the data entry will be cancelled if the numeric keypad does not receive any input within the specified time.	
	Timeout Time	Specifies the maximum time that the numeric keypad will wait to receive a new input. If there is no input within the specified time, the numeric keypad will be closed and the data entry will be cancelled.	
Notification	Notification	Check this option so the numeric entry will notify the specified bit after it finishes outputting the entered value to the destination variable.	
	Signal	Select one of the following signals for the notification:	
		Signal	Description
		Level	Set the specified bit to the specified state.
		Pulse	Send a positive pulse to the specified bit.
	Bit	Specifies the bit that receives the notification.	
State	Specifies the state (On or Off) that is used for the notification.		
Operator Confirmation	Operator Confirmation	Check this option if you want the operator to confirm what he/she enters for the numeric entry. The Confirmation box will be displayed when a value is entered for numeric entry. If the operator selects “Yes” in the Confirmation box, the numeric entry will write the entered value to the specified variable. If the operator selects “No” or if the operator does not respond within the specified time period (Maximum Waiting Time), the numeric entry will cancel the data entry operation.	
	Maximum Waiting Time	Specifies the maximum time that the numeric entry will wait for the operator’s confirmation. The data entry will be cancelled if the operator does not respond within this time.	
Operation Logging	Operation Logging	Check this option so the following three items will be recorded in the operation log when the numeric entry outputs the entered value. There are three recorded items: 1) The time when the operation is performed 2) The entered value 3) The predefined operation message	
	Message	Enter the operation message of the first language here.	
		Click this button to bring up the Operation Message dialog box that you can edit the operation message for all the languages.	
Minimum Hold Time		Available when the object is a button or switch. The touch operation of the button will not be activated until the button is pressed and held down for the specified time period (Minimum Hold Time).	




### 4.4.6. Visibility Settings

In the Visibility page of an object's property sheet, you can define how to show and hide the object. You can also modify the position and size of an object with the Visibility page.

The following are examples of the Visibility page:

The option "Controlled by Bit" is checked	The option "Controlled by User Level" is checked
<div> <div>Visibility</div> <div> <input type="checkbox"/> Invisible  <input checked="" type="checkbox"/> Controlled by Bit            Control Bit: <input type="text" value="M10.0"/>              Visible State: <input checked="" type="radio"/> ON <input type="radio"/> OFF  <input type="checkbox"/> Controlled by User Level         </div> <div>           Dimension            Left: <input type="text" value="160"/>   Width: <input type="text" value="31"/>              Top: <input type="text" value="158"/>   Height: <input type="text" value="34"/>    </div> </div>	<div> <div>Visibility</div> <div> <input type="checkbox"/> Invisible  <input type="checkbox"/> Controlled by Bit  <input checked="" type="checkbox"/> Controlled by User Level            Lowest Visible User Level: <input type="text" value="5"/>  </div> <div>           Dimension            Left: <input type="text" value="160"/>   Width: <input type="text" value="31"/>              Top: <input type="text" value="158"/>   Height: <input type="text" value="34"/>    </div> </div>

The following table describes each property in the Visibility page.

Property		Description
Invisible		Check this option so the object will always be invisible. <b>Note:</b> The touch operation is still enabled with this setting.
Controlled by Bit	Controlled by Bit	Check this option so the object will be shown and hidden by the specified bit.
	Control Bit	Specifies the bit that will show or hide the object. Click  to enter the bit address. Click  to enter the bit tag.
	Visible State	Specifies the state (On or Off) that makes the object visible.
Controlled by User Level	Controlled by User Level	Check this option so the object will be shown and hidden by the current user level.
	Lowest Visible User Level	Specifies the lowest user level that is required to show the object.
Dimension	Left	Specifies the X coordinate of the object's upper-left corner on the screen.
	Top	Specifies the Y coordinate of the object's upper-left corner on the screen.
	Width	Specifies the width (in pixels) of the object.
	Height	Specifies the height (in pixels) of the object.
		Click this button to redraw the object with the new settings.