

Control Reference

In This Chapter. . . .

- Control Definition
 - Pushbutton/Switch
 - Selector Switch
 - Numerical Display
 - Text Display
 - Clock Display
 - Texture Display
 - Plot
 - Bar Graph
 - Line Graph
 - Band
 - Circle
 - Free
 - Slider
 - Meter
 - Light
 - Pipe
-

Control Definition

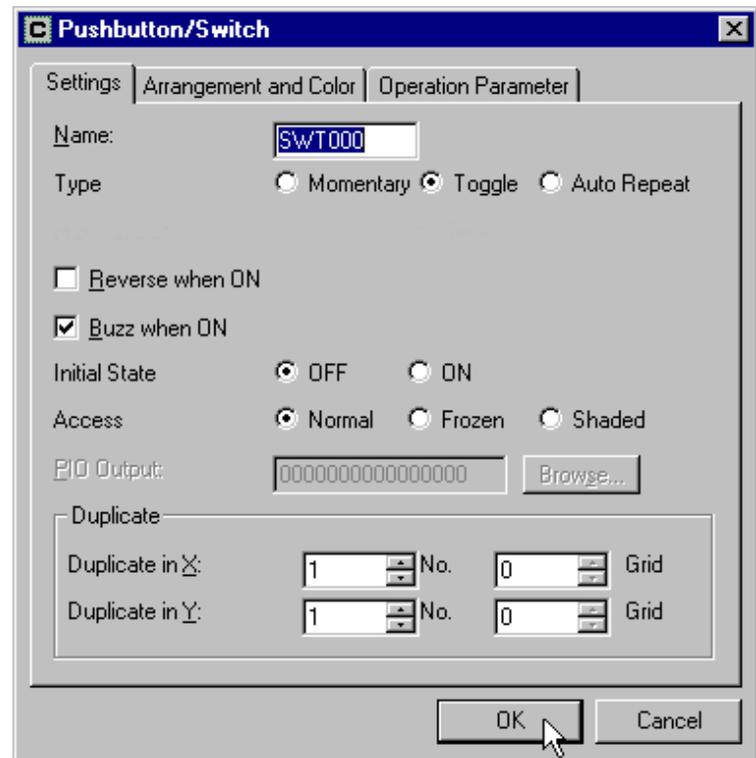
Controls are the functional components of the parts which contain them. A control is called by either the Operation Parameter (must be enabled) or by a program. If the Operation Parameter is enabled, the control name will be listed under the 'Operation Parameter' heading in the Part Properties window. If there is a part program, a Template name will be listed under the 'Operation Parameter' heading in the Part Properties window.

Control	Function
Pushbutton/Switch	Operates as a pushbutton or switch, turning ON/OFF a bit in the PLC.
Selector Switch	Operates multiple switches, only one of which can be ON at a time.
Numerical Display	Displays the numerical value of a specified PLC address(es).
Text Display	Displays the text in a specified PLC address(es) or registered text.
Clock Display	Displays the time of the <i>Direct</i> Touch panel's internal clock.
Texture Display	Displays the registered text according to the number in the PLC address.
Plot	Plots 2 data points on a graph in X-Y coordinate values.
Bar	Displays PLC data as a bar graph.
Line	Displays PLC data as a line graph.
Band	Displays PLC data as a divided color band.
Circle	Displays PLC data as a divided color circle chart.
Free	Displays PLC data as an area of color. (Example tank fill level.)
Slider	Displays PLC data as a meter with a slide indicator.
Meter	Displays PLC data as a circular meter with a needle indicator.
Light	Indicates PLC bit state On/OFF by changing color.
Pipe	Special light control to represent flow in a pipe or valve.

Pushbutton/Switch

Pushbutton/Switch Settings Tab

The Pushbutton/Switch control functions as a pushbutton or switch and can be a minimum of 20x20 dots (pixels) in size. This is the size of a single touch cell, keeping all parts separate when being selected by touch.



- **Name**

The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!

- **Type**

* **Momentary** means that it is only ON when the switch/pushbutton is pressed and is OFF when not pressed.

* **Toggle** means that the pushbutton/switch alternates between ON and OFF each time it is pressed. This is sometimes called *Maintained* or *Alternate*.

* **Auto Repeat** works similarly to Momentary except it repeatedly sends the ON state while the pushbutton/switch is pressed.

- **Reverse when ON**

This causes the ON colors of the part (including any textures) to be replaced by the opposite color number. For instance, the yellow (15) becomes transparent (0); the light green (14) becomes dark blue (1) and the light red (13) becomes dark red (2), and so on.

- **Buzz**

sets the switch to make the buzz sound when pressed, but only if the System Setup > Pushbutton Setup (on the panel itself) has the Touch Sound ON.

- **Initial State**

sets the initial state of the switch/pushbutton ON/OFF when the screen is displayed. For example, if the initial state is ON and the type is toggle, a value of 1 would be written to the bit assigned as soon as the screen was displayed.

- **Access**

* **Normal** allows full operation of the control.

* **Frozen** means the control is turned off.

* **Shaded** means the control is turned off and is shaded in color.

This is the access of the Control, not the Part itself, so be careful when using this setting with a duplicated control (see below). Although the part works like more than one switch, the access applies to all addresses since it has only one control.

- **PIO**

Not Applicable. This is for a parallel IO module.

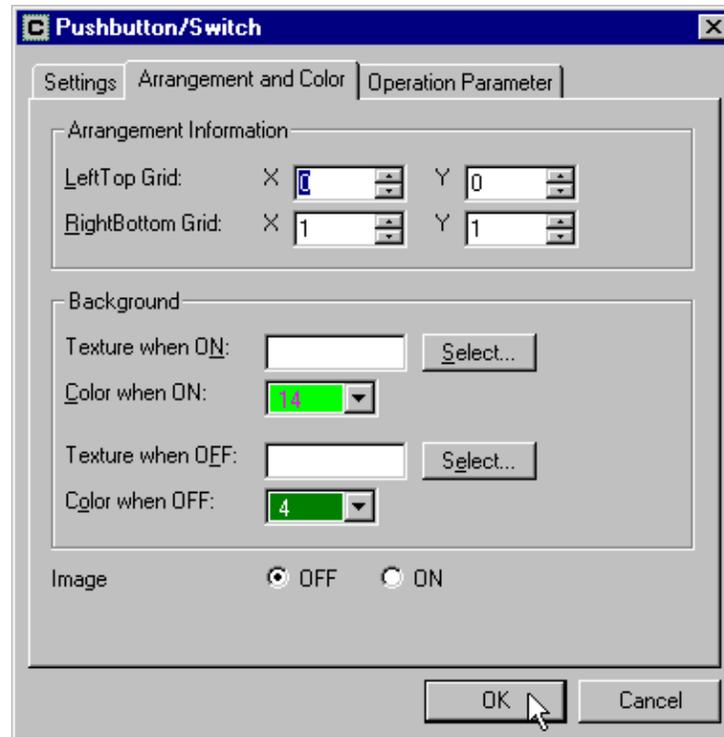
- **Duplicate**

is only selectable when editing the contents of the part. It creates multiple pushbuttons/switches in the direction(s) chosen. The additional buttons reference the PLC bit addresses following the bit address of the control and go from left to right then top to bottom. *When duplicating, you must size the part border big enough for the duplicates: use Shift+x.*

If a pushbutton or switch has a duplication of 2 in X and 2 in Y, and the bit address of the control was C2, then the bit addresses of the others would be as shown on the right.

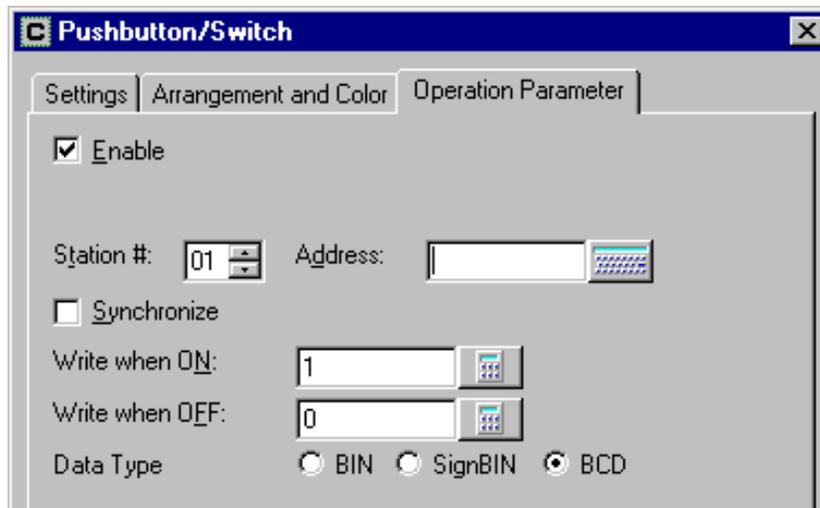
C2	C3
C4	C5

Pushbutton/Switch Arrangement and Color Tab



- **Arrangement Information**
is only selectable when editing the contents of the part. This determines the size of the control by the location of the LeftTop and RightBottom corners (in X and Y coordinates).
- **Background (Texture and Color)**
is used to set the textures and/or colors which will be displayed within the control area. It works as if the control looks for every occurrence of the Color (and Texture) when OFF and replaces it with the Color (and Texture) when ON. Make sure that the background color (or the color of the circle or rectangle inside) of the Part itself is the same as the Color when OFF, so the color of the part will change properly.
- **Image**
specifies which state (ON or OFF) the control will have on the screen in ScreenCreator alone. This does not affect the state of the PLC bit address or what is displayed on the panel itself.

Pushbutton/Switch Operation Parameter Tab



- **Enable**

is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.
- **Station**

is used for applications where more than one PLC is connected to the panel. The default is 01.
- **Address**

refers to the single bit address of the PLC of which the control writes to and/or reads from.
- **Synchronize**

sets the pushbutton/switch to read from the PLC bit address and indicate the status of the bit by the ON or OFF color. If *Synchronize* is disabled, the control simply writes to the bit and indicates the ON or OFF color regardless of the actual state of the bit. (If, for some reason, the bit in the PLC was never changed, the part would not indicate this.) With *Synchronize* enabled, however, the control checks the state of the bit and displays the color accordingly. The difference is really only noticeable when the switch type is Toggle.
- **Write when ON/OFF**

sets either a 1 or a 0 to be written to the PLC bit address when the control is ON or OFF. Be sure to consult your PLC manual if you are uncertain here and never set both to the same value!
- **Data Type**

specifies the data type of the PLC address. This must be correct for the panel to communicate with the PLC.

 - * **BIN** is binary, or base 2.
 - * **SignBIN** is signed binary, or base 2 with the 2s complement.
 - * **BCD** is binary-coded decimal.

Selector Switch

The Selector Switch control is a special version of the Pushbutton/Switch control. It is used in standard library parts which have three duplicate pushbuttons. A part program operates the three so that only one can be ON at a time. See the detailed description in Chapter 6...

Numerical Display

Numerical Display Attributes Tab

The Numerical Display control displays a numerical value stored in the PLC memory.

- Name**
 The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!
- Action**
 Action specifies how the display appears on the screen.
 - * **Normal** is the default, displaying the number in the Number Color.
 - * **Rev** replaces the Number color with the Tile Fore color.
 - * **Flash** alternates between *Normal* and *Rev* in 1 second intervals.
 - * **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.

- **Decimal Place**

This specifies the placement of the decimal.

* **Fixed** adds zeroes (specified by *Places to Right of Decimal* below) to the right of the decimal, or drops extra digits, as needed.

* **Float** displays the actual number, allowing any decimal place location.

* **Fixed 2** maintains the specified places to the right of the decimal by locating the decimal into the number (rather than adding zeroes).

- **Places to Right of Decimal**

determines the number of decimal places (to the right) displayed.

- **No Zero Suppression**

refers to zeroes to the left of the number displayed, excluding the first to the left of the decimal if the value is less than one. The default is no zero suppression selected.

- **Format Displayed Number**

This specifies the number format *displayed*.

* **BIN** is binary, or base 2.

* **OCT** is octal, or base 8.

* **DEC** is decimal, or base 10, with a sign.

* **HEX** is hexadecimal, or base 16.

- **Test Value / Display**

This feature allows you to **test** the number format **displayed**. You can change the Places to Right of Decimal, the Decimal Place (Fixed, Float or Fixed 2) and enter different numbers to see how the number will be displayed.

- **Duplicate**

is only selectable when editing the contents of the part. It creates a display matrix in the direction(s) chosen. The additional displays reference the PLC word addresses following the initial address of the part and go from left to right then top to bottom. *When duplicating, you must size the part border big enough for the duplicates: use Shift+x.*

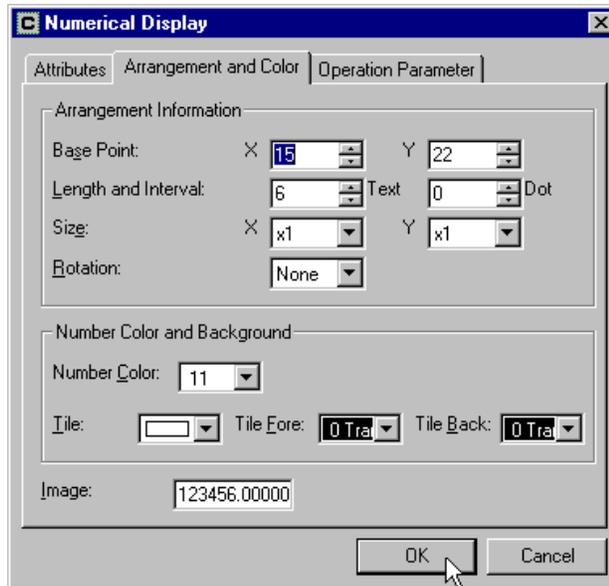
If a numerical display has a duplication of 2 in X and 2 in Y, and the word address of the part is V2000, the word addresses of the others would be as shown on the right.

V2000	V2001
V2002	V2003

NOTE: Do not use the Duplicate feature with either Numerical Input Displays or Text Input Displays.

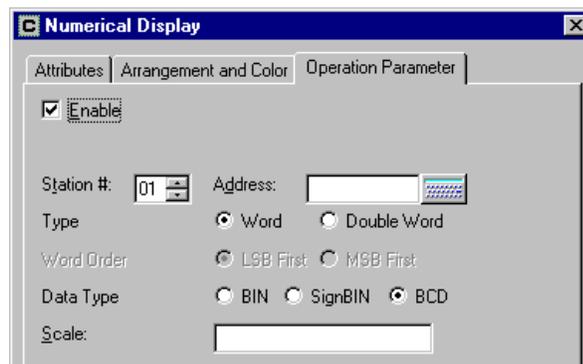


Numerical Display Arrangement and Color Tab



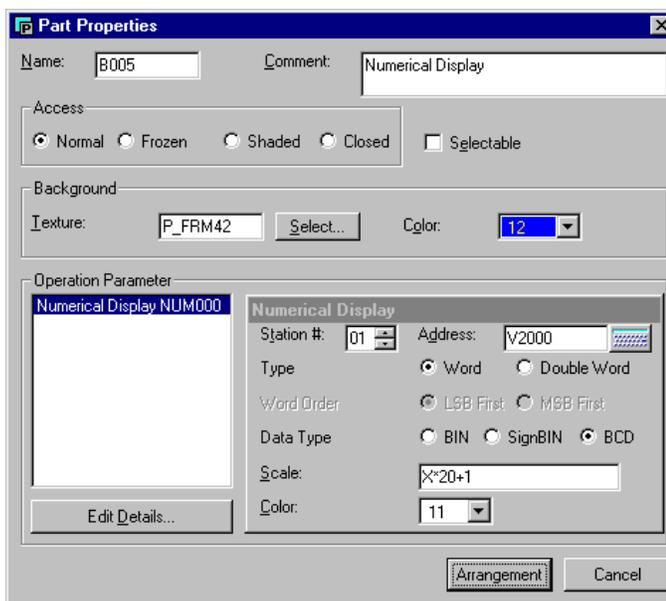
- Arrangement Information**
 - is only selectable when editing the contents of the part.
 - * **Base Point** is the top-left reference point of the display.
 - * **Length and Interval** specifies the number of numeric characters (text) and the space (dot) between them horizontally.
 - * **Size** is the character size in both X and Y dimensions.
 - * **Rotation** specifies a clockwise rotation angle (None, 90, 180, or 270 degrees).
- Number Color and Background**
 - is used to set the color of the numbers displayed and the background color (based on the Tile choice and Fore/Back colors).
- Image**
 - specifies a number for the control to display in ScreenCreator alone. The format of the number displayed in ScreenCreator does not match that which is displayed on the panel. Also, this does not affect the state of the PLC address or what is displayed on the panel itself.

Numerical Display Operation Parameter Tab



- Enable**
 - is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.

- Station**
 is used for applications where more than one PLC is connected to the panel. The default is 01.
- Address**
 refers to the beginning word address of the PLC of which the control writes to and/or reads from.
- Type**
 specifies the address type as either Word (single 16 bit) or Double Word (double 16 bit).
- Word Order**
 If double word, sets the byte order as either MSB (most significant byte) first or LSB (least significant byte).
- Data Type**
 specifies the data type of the PLC address. This must be correct for the panel to communicate with the PLC.
 - * **BIN** is binary, or base 2.
 - * **SignBIN** is signed binary, or base 2 with the 2s complement.
 - * **BCD** is binary-coded decimal.
- Scale**
 allows the value from the PLC (represented by 'X') to be scaled by a formula. All numbers (0–9), the following symbols : *, /, +, -, (,), and the decimal point may be used in the calculation. The result from the calculation becomes the new value displayed.



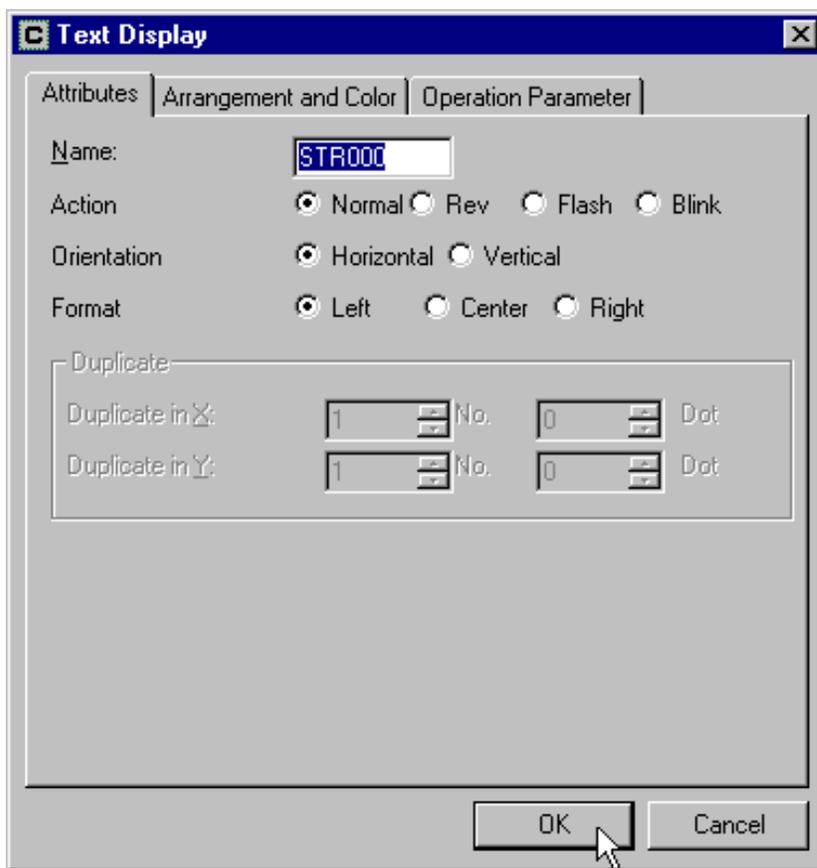
Example: To multiply the value by 20 and add 1, use this formula: $X*20+1$.

Be sure to test the formula before using the result number. This may be done by assigning a Numerical Input Display part to the same address.

Text Display

Text Display Attributes Tab

The Text Display control displays either registered text (from the panel) or ASCII text (from the PLC).



- **Name**

The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!

- **Action**
Action specifies how the display appears on the screen.
 - * **Normal** is the default, displaying the text in the Text Color.
 - * **Rev** replaces the Text color with the Tile Fore color.
 - * **Flash** alternates between *Normal* and *Rev* in 1 second intervals.
 - * **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.
- **Orientation**
 - * **Horizontal**
 - * **Vertical**
- **Format**
This specifies the location of the text in the display.
 - * **Left** is left justified.
 - * **Center** is centered in the control.
 - * **Right** is right justified.
- **Duplicate**
is only selectable when editing the contents of the part. It creates a display matrix in the direction(s) chosen. The additional displays reference the PLC word addresses following the initial address of the part and go from left to right then top to bottom. *When duplicating, you must size the part border big enough for the duplicates: use Shift+x.*

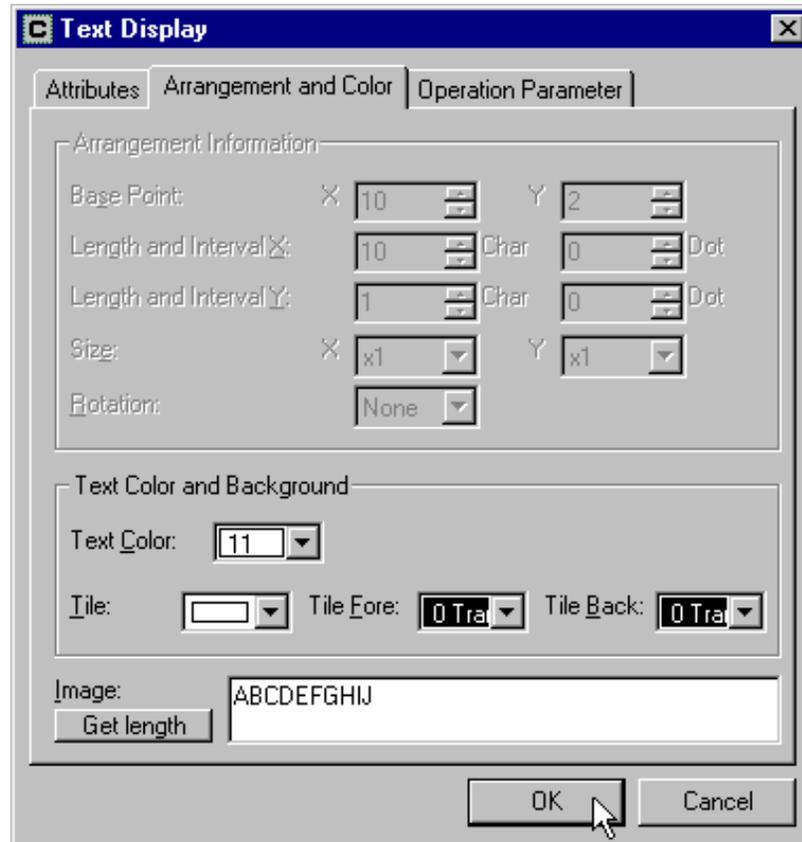
If a text display has a duplication of 2 in X and 2 in Y, and the word address of the part is V2000, the word addresses of the others would be as shown on the right.

V2000	V2001
V2002	V2003



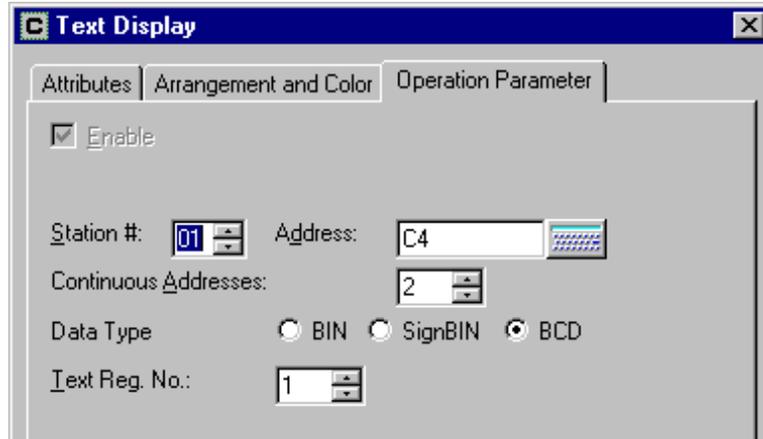
NOTE: Do not use the Duplicate feature with either Numerical Input Displays or Text Input Displays.

Text Display Arrangement and Color Tab



- Arrangement Information**
 is only selectable when editing the contents of the part.
 - * **Base Point** is the top-left reference point of the display.
 - * **Length and Interval X** specifies the number of characters (char) and the space (dot) between them horizontally.
 - * **Length and Interval Y** specifies the number of characters (char) and the space (dot) between them vertically.
 - * **Size** is the character size in both X and Y dimensions.
 - * **Rotation** specifies a clockwise rotation angle (None, 90, 180, or 270 degrees).
- Text Color and Background**
 is used to set the color of the text displayed and the background color (based on the Tile choice and Fore/Back colors).
- Image/Get length**
 specifies text for the control to display in ScreenCreator alone. The *Get length* function automatically changes the Length and Interval X based on the text entered.

Text Display Operation Parameter Tab



- Enable**
 is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.
- Station**
 is used for applications where more than one PLC is connected to the panel. The default is 01.
- Address**
 refers to the single (or first if more than one) PLC address assigned to the control. The address may be either bit or word, but if it is a bit address, it may only display the first registered text.
- Continuous Addresses**
 specifies the number of consecutive addresses (either bit or word) which determine which registered text will be displayed.
 - * **1** If the Continuous Addresses value is 1 (the default), then the registered text is simply the value contained in the word (or bit) address *plus one*.
 - * **2 or more** If the Continuous Addresses value is more than 1, then the registered text is determined by the priority explained below.

Example A: The text display has 4 continuous addresses with the first address being V2500 and the registered text number being 1. Since V2500 is the *starting* address, it corresponds to registered text number 1. V2501 goes with text number 2, and so on. The registered text displayed will be that of the first address having a value greater than zero (beginning with V2500). So, if V2500 has a value of 2 and all the rest have a value of 5, then Registered text 1 will be displayed.

V2500	————	Reg. Text 1
V2501	————	Reg. Text 2
V2502	————	Reg. Text 3
V2503	————	Reg. Text 4

Example B: The text display has 3 continuous addresses with the first address being C0 and the registered text number being 10. If C0 is OFF, but C1 and C2 are ON, the registered text number 11 would be displayed.

C0	————	Reg. Text 10
C1	————	Reg. Text 11
C2	————	Reg. Text 12



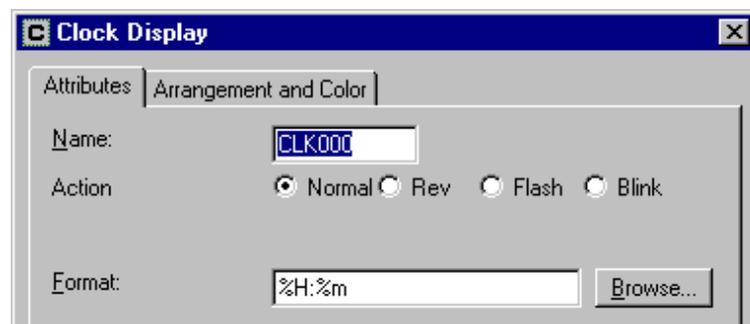
NOTE: Example A above is not the best way to use word level addressing with a Text Display. Please see Registered Text Displays in Chapter 6 for the best approach.

- **Data Type**
specifies the data type of the PLC address. This must be correct for the panel to communicate with the PLC.
 - * **BIN** is binary, or base 2.
 - * **SignBIN** is signed binary, or base 2 with the 2s complement.
 - * **BCD** is binary-coded decimal.
- **Text Reg. No.**
specifies the first registered text number to be displayed by the control.

Clock Display

Clock Display Attributes Tab

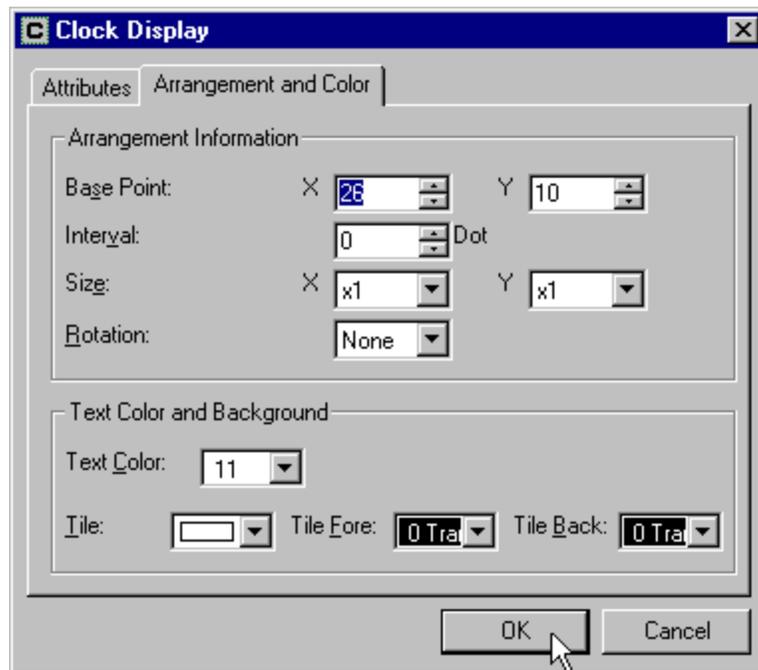
The Clock Display control displays the *DirectTouch* panel internal time in hour, minutes and seconds.



- **Name**
The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!

- **Action**
Action specifies how the display appears on the screen.
 - * **Normal** is the default, displaying the text in the Text Color.
 - * **Rev** replaces the original background color with the reverse color (15–original).
 - * **Flash** alternates between *Normal* and *Rev* in 1 second intervals.
 - * **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.
- **Format** has a pull-down list of several time formats to choose from (12 hour and 24 hour).

Clock Display Arrangement and Color Tab

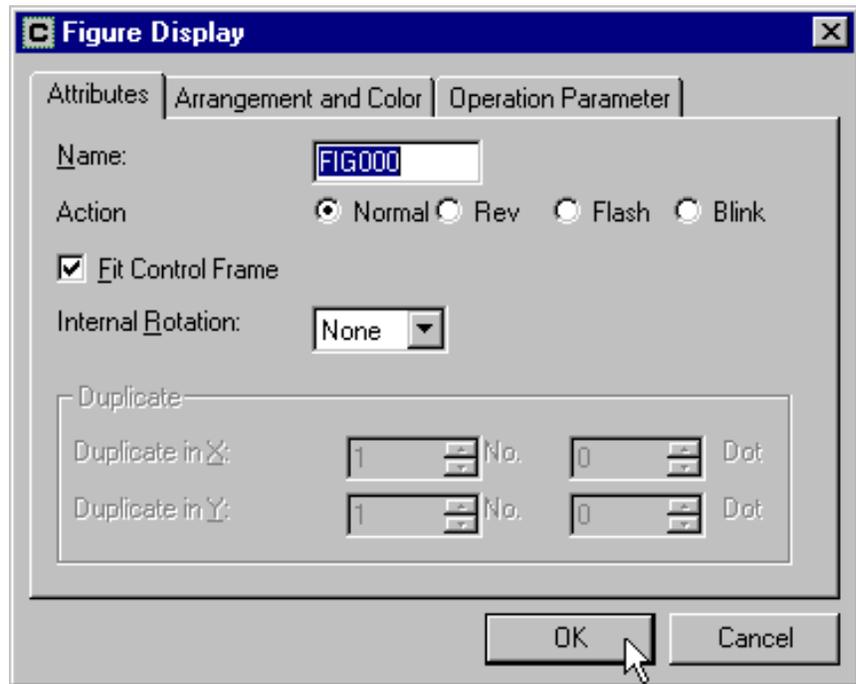


- **Arrangement Information**
is only selectable when editing the contents of the part.
 - * **Base Point** is the top-left reference point of the display.
 - * **Interval** specifies the space (dot) between the clock numbers horizontally.
 - * **Size** is the number size in both X and Y dimensions.
 - * **Rotation** specifies a clockwise rotation angle (None, 90, 180, or 270 degrees).
- **Text Color and Background**
is used to set the color of the text displayed and the background color (based on the Tile choice and Fore/Back colors).

Figure (Texture) Display

Figure (Texture) Display Attributes Tab

The Texture Display control displays a registered texture according to its number.



- Name**
 The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!
- Action**
 Action specifies how the display appears on the screen.
 - * **Normal** is the default, displaying the text in the Text Color.
 - * **Rev** replaces the original background color with the reverse color (15–original).
 - * **Flash** alternates between *Normal* and *Rev* in 1 second intervals.
 - * **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.
- Fit Control Frame** causes the texture to size proportionally with the control frame. If not selected, the texture will stay its original size when the control size is changed.
- Internal Rotation** specifies a clockwise rotation angle of the displayed texture (None, 90, 180, or 270 degrees).

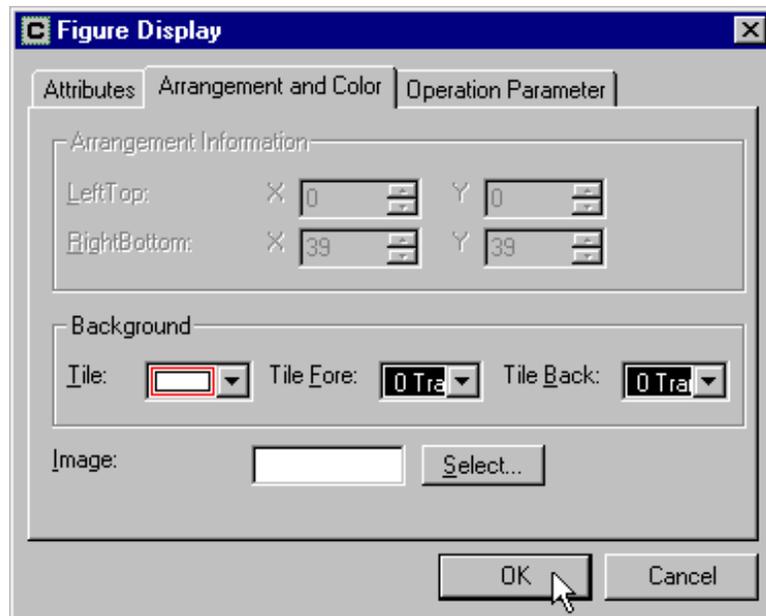
- **Duplicate**

is only selectable when editing the contents of the part. It creates a display matrix in the direction(s) chosen. The additional displays reference the PLC word addresses following the initial address of the part and go from left to right then top to bottom. *When duplicating, you must size the part border big enough for the duplicates: use Shift+x.*

If a texture display has a duplication of 2 in X and 2 in Y, and the word address of the part is V2300, the word addresses of the others would be as shown on the right.

V2300	V2301
V2302	V2303

Texture Display Arrangement and Color Tab



- **Arrangement Information**

is only selectable when editing the contents of the part. This determines the size of the control by the location of the LeftTop and RightBottom corners (in X and Y coordinates).

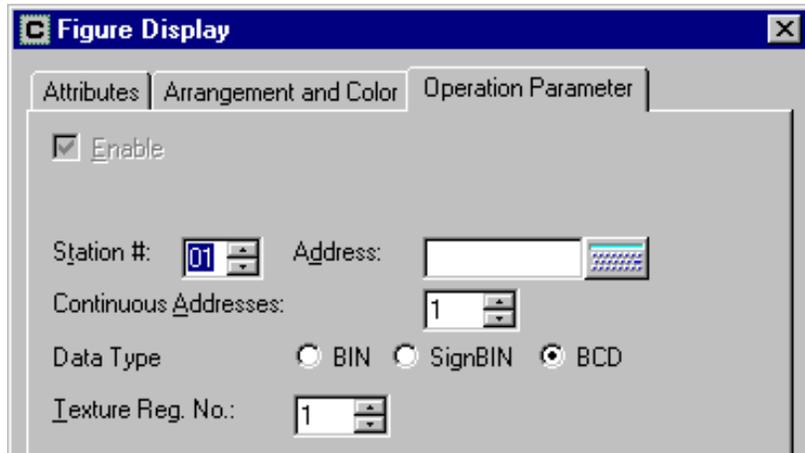
- **Background**

is used to set the background color (based on the Tile choice and Fore/Back colors).

- **Image**

specifies a texture for the control to display in ScreenCreator alone. Click on *Select* to choose from existing textures.

**Figure (Texture)
Display Operation
Parameter Tab**



- Enable**

is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.
- Station**

is used for applications where more than one PLC is connected to the panel. The default is 01.
- Address**

refers to the single (or first if more than one) PLC address assigned to the control. The address may be either bit or word, but if it is a bit address, it may only display the first registered texture.
- Continuous Addresses**

specifies the number of consecutive addresses (either bit or word) which determine which registered texture will be displayed.

* **1** If the Continuous Addresses value is 1 (the default), then the registered texture is simply the value contained in the word (or bit) address *plus one*.

* **2 or more** If the Continuous Addresses value is more than 1, then the registered texture is determined by the priority explained below.

Example A: The texture display has 4 continuous addresses with the first address being V2600 and the registered texture number being 1. Since V2600 is the *starting* address, it corresponds to registered texture number 1. V2601 goes with texture number 2, and so on. The registered texture displayed will be that of the first address having a value greater than zero (beginning with V2600). So, if V2600 has a value of 2 and all the rest have a value of 5, then Reg. Texture 1 will be displayed..

Example B: The texture display has 3 continuous addresses with the first address being C0 and the registered texture number being 10. If C0 is OFF, but C1 and C2 are ON, the registered texture number 11 would be displayed.

V2600	————	Reg. Texture 1
V2601	————	Reg. Texture 2
V2602	————	Reg. Texture 3
V2603	————	Reg. Texture 4

C0	————	Reg. Texture 10
C1	————	Reg. Texture 11
C2	————	Reg. Texture 12

- **Data Type**

specifies the data type of the PLC address. This must be correct for the panel to communicate with the PLC.

* **BIN** is binary, or base 2.

* **SignBIN** is signed binary, or base 2 with the 2s complement.

* **BCD** is binary-coded decimal.

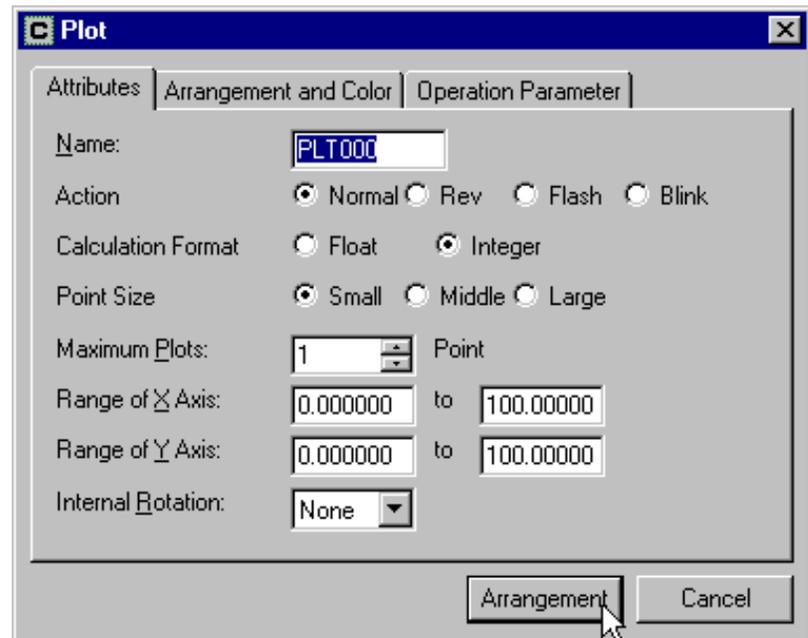
- **Text Reg. No.**

specifies the first registered texture number to be displayed by the control.

Plot

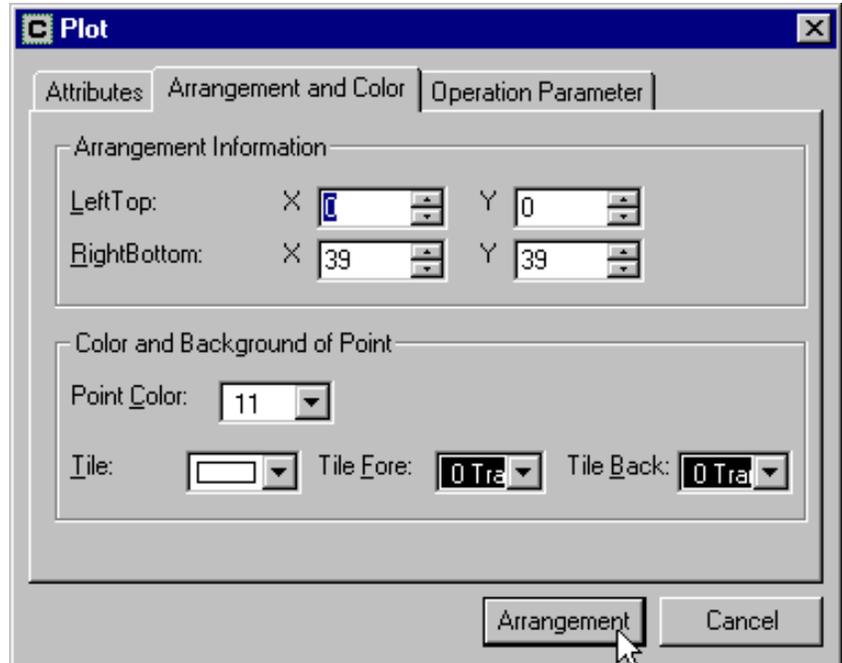
Plot Attributes Tab The Plot control plots the value of two consecutive PLC word addresses in X, Y coordinates.

Note: There are no standard parts in ScreenCreator which have the plot control.



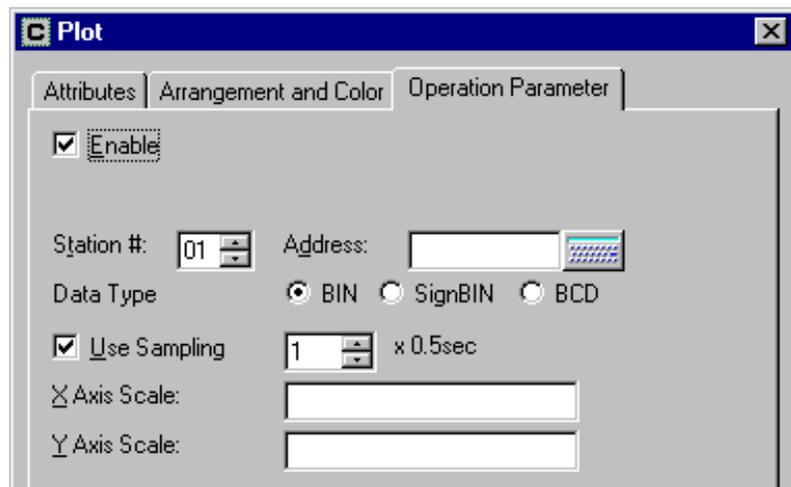
- **Name**
The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!
- **Action**
Action specifies how the display appears on the screen.
 - * **Normal** is the default, displaying the text in the Text Color.
 - * **Rev** replaces the original background color with the reverse color (15–original).
 - * **Flash** alternates between *Normal* and *Rev* in 1 second intervals.
 - * **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.
- **Calculation Format** is used if a scaling formula is used (see X & Y Axis Scale under Plot Operation Parameter Tab, below). Integer is faster than Float (Floating Point), but is less accurate.
- **Point Size** specifies the size of the points plotted in Small, Medium, or Large.
- **Maximum Plots** specifies the number of points plotted.
- **Range of X Axis** determines the minimum and maximum values of the X axis.
- **Range of Y Axis** determines the minimum and maximum values of the Y axis.
- **Internal Rotation** specifies a clockwise rotation angle of the displayed plot (None, 90, 180, or 270 degrees).

Plot Arrangement and Color Tab



- Arrangement Information**
 is only selectable when editing the contents of the part. This determines the size of the control by the location of the LeftTop and RightBottom corners (in X and Y coordinates).
- Background**
 is used to set the color of the Point(s) and the background color (based on the Tile choice and Fore/Back colors).

Plot Operation Parameter Tab



- Enable**
 is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.

- **Station**
is used for applications where more than one PLC is connected to the panel. The default is 01.
- **Address**
refers to the single PLC word address assigned to the control. The address becomes the X axis value, the address immediately after becomes the Y axis value. For example, if the address is V2400, then X is the value in V2400 and Y is the value in V2401.
- **Data Type**
specifies the data type of the PLC address. This must be correct for the panel to communicate with the PLC.
 - * **BIN** is binary, or base 2.
 - * **SignBIN** is signed binary, or base 2 with the 2s complement.
 - * **BCD** is binary-coded decimal.
- **Use Sampling**
if enabled, specifies the sampling rate in seconds (by multiplying the number entered by 0.5 seconds).
- **X Axis Scale**
allows the X value from the PLC (represented by 'X') to be scaled by a formula. All numbers (0–9), the following symbols : *, /, +, -, (,), and the decimal point may be used in the calculation. The value resulting from the calculation becomes the X coordinate of the point displayed.

Example: To multiply the value by 40 and subtract 3, use this formula: $X*40-3$.

Be sure to test the formula before using the result number. This may be done by assigning a Numerical Input Display part to the same address.
- **Y Axis Scale**
allows the Y value from the PLC (represented by 'X') to be scaled by a formula. All numbers (0–9), the following symbols : *, /, +, -, (,), and the decimal point may be used in the calculation. The value resulting from the calculation becomes the Y coordinate of the point displayed.

Example: To multiply the value by 13 and add 2, use this formula: $X*13+2$.

Be sure to test the formula before using the result number. This may be done by assigning a Numerical Input Display part to the same address.

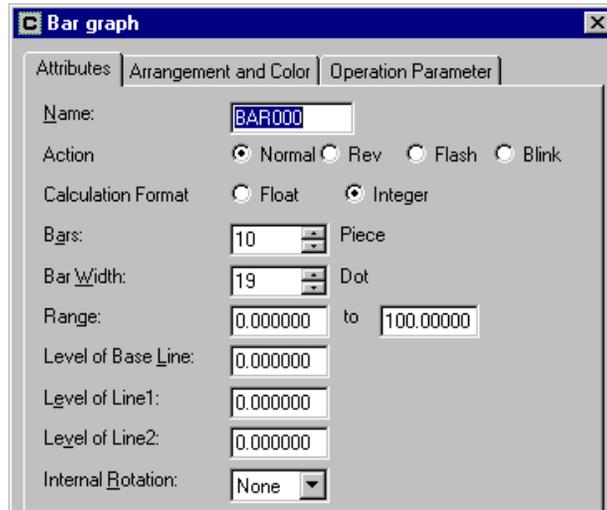


NOTE: Both X axis and Y axis use 'X' as the input to their respective scale formulas. See the discussion of Scale for Numerical Displays earlier in this chapter.

Bar Graph

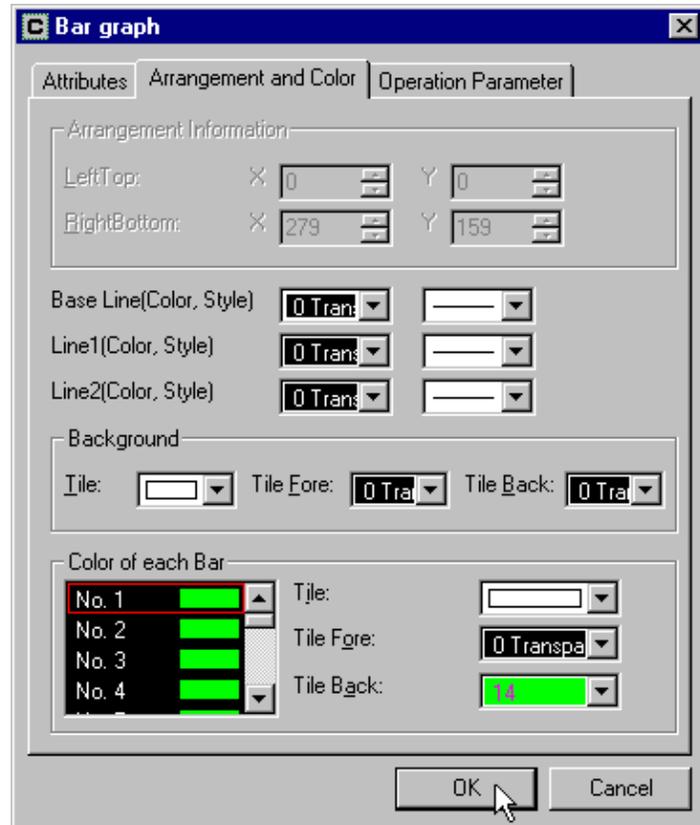
Bar Graph Attributes Tab

The Bar Graph control plots the value of one or more PLC word addresses in a bar graph.



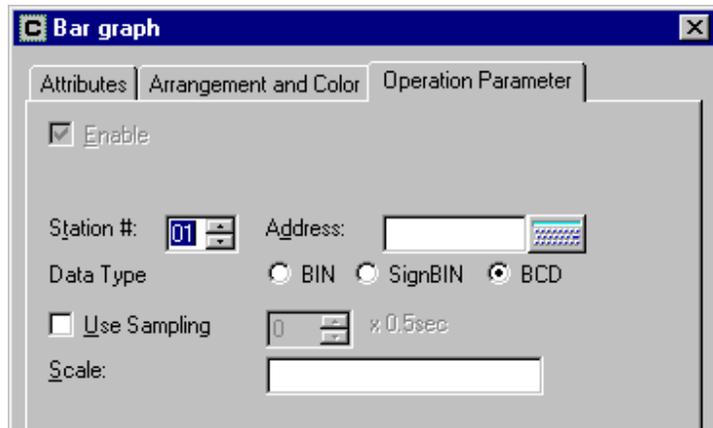
- **Name**
The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!
- **Action**
Action specifies how the display appears on the screen.
 - * **Normal** is the default, displaying the text in the Text Color.
 - * **Rev** replaces the original background color with the reverse color (15–original).
 - * **Flash** alternates between *Normal* and *Rev* in 1 second intervals.
 - * **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.
- **Calculation Format** is used if a scaling formula is used (see Scale under the Operation Parameter Tab, below). Integer is faster than Float (Floating Point), but is less accurate.
- **Bars** specifies the number of bars to be displayed.
- **Bar Width** specifies the width of each bar in dots (or pixels).
- **Range** determines the minimum and maximum values of the bars.
- **Level of Base Line** specifies a value for the bottom reference line.
- **Level of Line1** specifies a a value for the middle reference line.
- **Level of Line2** specifies a value for the top reference line.
- **Internal Rotation** specifies a clockwise rotation angle of the displayed plot (None, 90, 180, or 270 degrees).

Bar Graph Arrangement and Color Tab



- Arrangement Information**
 is only selectable when editing the contents of the part. This determines the size of the control by the location of the LeftTop and RightBottom corners (in X and Y coordinates).
- Base Line(Color,Style)** the color and style of the Base Line.
- Line1(Color,Style)** the color and style of the Line1.
- Line2(Color,Style)** the color and style of the Line2.
- Background**
 is used to set the color of the background (based on the Tile choice and Fore/Back colors).
- Color of each Bar**
 is used to set the color of each bar (based on the Tile choice and Fore/Back colors).

Bar Graph Operation Parameter Tab



- **Enable**

is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.
- **Station**

is used for applications where more than one PLC is connected to the panel. The default is 01.
- **Address**

refers to the single (or first, if not sampling) PLC word address assigned to the control. If no sampling is used, the value of the address becomes the first bar displayed, the values of the addresses following the first become the second bar, third bar and so on.
- **Data Type**

specifies the data type of the PLC address. This must be correct for the panel to communicate with the PLC.

 - * **BIN** is binary, or base 2.
 - * **SignBIN** is signed binary, or base 2 with the 2s complement.
 - * **BCD** is binary-coded decimal.
- **Use Sampling**

if enabled, specifies the sampling rate in seconds (by multiplying the number entered by 0.5 seconds). If sampling is used, the only value displayed is that of the single address (see above), with each bar being the value at that sample time. A new bar appears on the left side of the graph for each new sample and all existing bars are moved to the right.
- **Scale**

allows the value from the PLC address (represented by 'X') to be scaled by a formula. All numbers (0–9), the following symbols : *, /, +, -, (,), and the decimal point may be used in the calculation. The value resulting from the calculation is then displayed as a bar. See *Scale under Numerical Display earlier in this chapter*.

Line Graph (Trend Graph)

Line Graph Attributes Tab

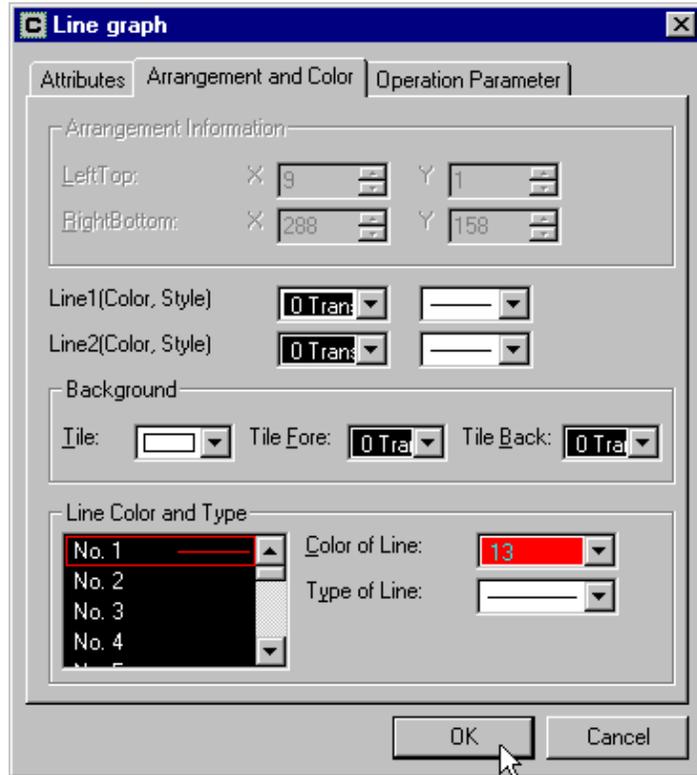
The Line Graph control plots the value of one or more PLC word address in a line (or trend) graph.

The screenshot shows the 'Line graph' dialog box with the 'Attributes' tab selected. The 'Name' field contains 'LNE000'. Under 'Action', 'Normal' is selected. Under 'Calculation Format', 'Integer' is selected. 'Number of Lines' is set to 1 and 'Number of Points' is set to 10. The 'Range' is from 0.000000 to 100.000000. Both 'Level of Line1' and 'Level of Line2' are set to 0.000000. 'Internal Rotation' is set to 'None'. 'OK' and 'Cancel' buttons are at the bottom right.

- **Name**
The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!
- **Action**
Action specifies how the display appears on the screen.
 - * **Normal** is the default, displaying the text in the Text Color.
 - * **Rev** replaces the original background color with the reverse color (15–original).
 - * **Flash** alternates between *Normal* and *Rev* in 1 second intervals.
 - * **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.
- **Calculation Format** is used if a scaling formula is used (see Scale under the Operation Parameter Tab, below). Integer is faster than Float (Floating Point), but is less accurate.
- **Number of Lines** determines the number of sequential PLC address to plot.
- **Number of Points** determines the number of points that each line will have on the graph.
- **Range** determines the minimum and maximum values of the points.
- **Level of Line1** specifies a horizontal reference line on the graph. (Make transparent if not wanted.)
- **Level of Line2** specifies a second horizontal reference line on the graph. (Make transparent if not wanted.)

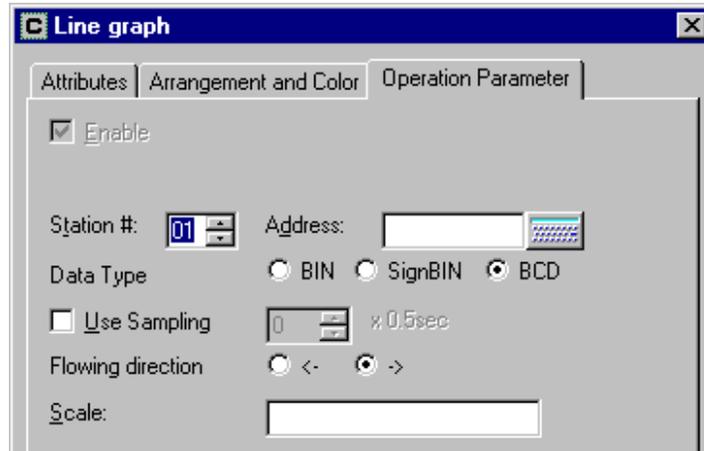
- **Internal Rotation** specifies a clockwise rotation angle of the displayed plot (None, 90, 180, or 270 degrees).

Line Graph Arrangement and Color Tab



- **Arrangement Information**
is only selectable when editing the contents of the part. This determines the size of the control by the location of the LeftTop and RightBottom corners (in X and Y coordinates).
- **Line1(Color,Style)** the color and style of the Line1.
- **Line2(Color,Style)** the color and style of the Line2.
- **Background**
is used to set the color of the background (based on the Tile choice and Fore/Back colors).
- **Line Color and Type**
is used to set the color and type of each line.

Line Graph Operation Parameter Tab



- **Enable**

is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.
- **Station**

is used for applications where more than one PLC is connected to the panel. The default is 01.
- **Address**

refers to the single (or first, if not sampling) PLC word address assigned to the control. If no sampling is used, the value of the address becomes the first point displayed, the values of the addresses following the first become the second point, third point and so on.
- **Data Type**

specifies the data type of the PLC address. This must be correct for the panel to communicate with the PLC.

 - * **BIN** is binary, or base 2.
 - * **SignBIN** is signed binary, or base 2 with the 2s complement.
 - * **BCD** is binary-coded decimal.
- **Sampling Time**

specifies the sampling rate in seconds (by multiplying the number entered by 0.5 seconds).
- **Flowing direction**

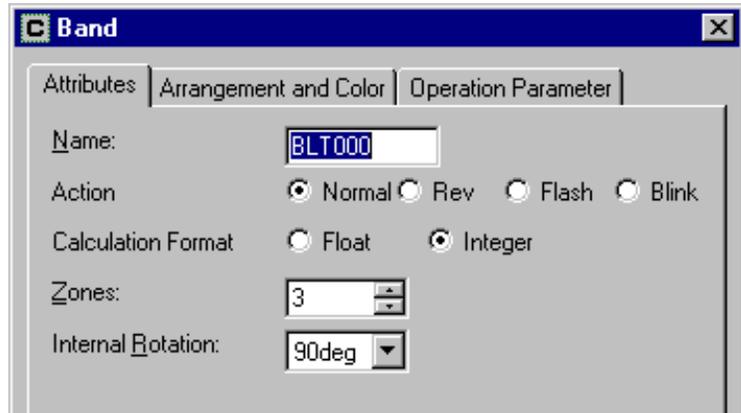
is the direction of the plotted line(s). The arrow pointing to the right is left to right and the arrow pointing to the left is right to left.
- **Scale**

allows the value from the PLC address (represented by 'X') to be scaled by a formula. All numbers (0–9), the following symbols : *, /, +, -, (,), and the decimal point may be used in the calculation. The value resulting from the calculation is then displayed as a point. See *Scale under Numerical Display earlier in this chapter*.

Band

Band Attributes Tab

The Band control indicates the value of two or more PLC word addresses as a band of colors in a given rectangle shape.



- **Name**
The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!
- **Action**
Action specifies how the display appears on the screen.
 - * **Normal** is the default, displaying the text in the Text Color.
 - * **Rev** replaces the original background color with the reverse color (15–original).
 - * **Flash** alternates between *Normal* and *Rev* in 1 second intervals.
 - * **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.
- **Calculation Format** is used if a scaling formula is used (see Scale under the Operation Parameter Tab, below). Integer is faster than Float (Floating Point), but is less accurate.
- **Number of Zones** determines the number of sequential PLC addresses to plot.
- **Internal Rotation** specifies a clockwise rotation angle of the band (None, 90, 180, or 270 degrees).

Band Arrangement and Color Tab



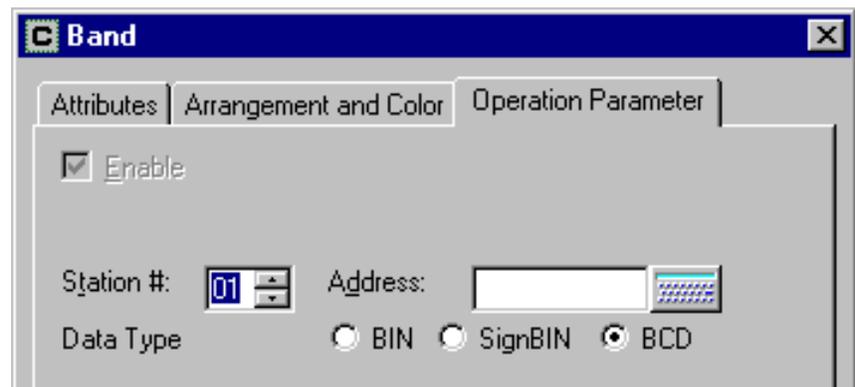
- **Arrangement Information**

is only selectable when editing the contents of the part. This determines the size of the control by the location of the LeftTop and RightBottom corners (in X and Y coordinates).

- **Color of each Zone**

is used to set the color of each zone (based on the Tile choice and Fore/Back colors).

Band Operation Parameter Tab



- **Enable**

is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.

- **Station**

is used for applications where more than one PLC is connected to the panel. The default is 01.

- **Address**

refers to the single (or first, if not sampling) PLC word address assigned to the control. If no sampling is used, the value of the address becomes the first zone displayed, the values of the addresses following the first become the second zone, third zone and so on.

- **Data Type**

specifies the data type of the PLC address. This must be correct for the panel to communicate with the PLC.

* **BIN** is binary, or base 2.

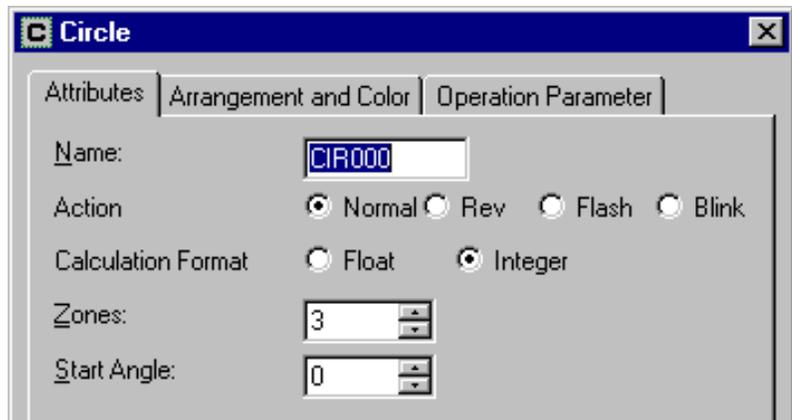
* **SignBIN** is signed binary, or base 2 with the 2s complement.

* **BCD** is binary-coded decimal.

Circle

Circle Attributes Tab

The Circle control indicates the value of two or more PLC word addresses as a Circle of colors (like a Pie-chart).



- **Name**

The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!

- **Action**

Action specifies how the display appears on the screen.

* **Normal** is the default, displaying the text in the Text Color.

* **Rev** replaces the original background color with the reverse color (15-original).

* **Flash** alternates between *Normal* and *Rev* in 1 second intervals.

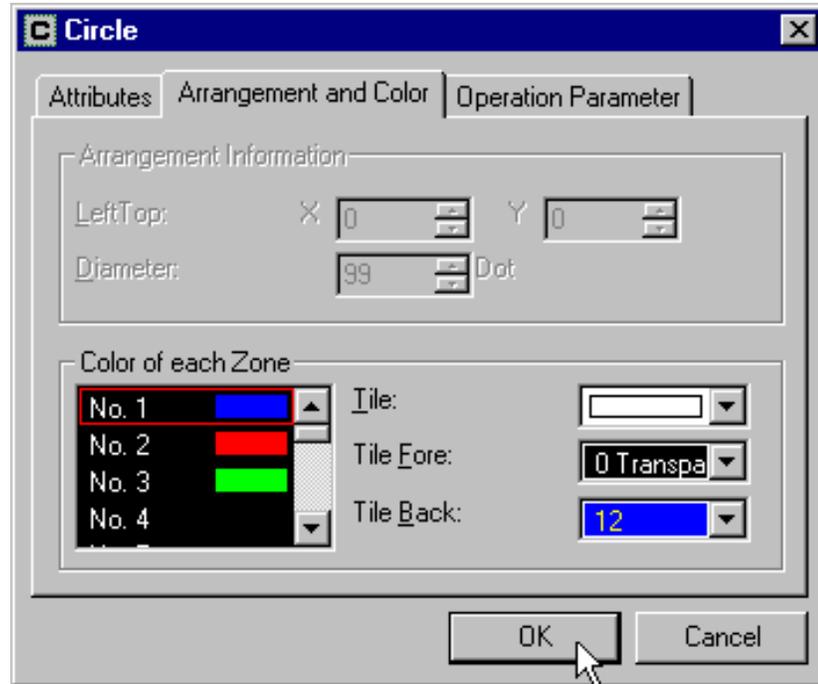
* **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.

- **Calculation Format** is used if a scaling formula is used (see Scale under the Operation Parameter Tab, below). Integer is faster than Float (Floating Point), but is less accurate.

- **Number of Zones** determines the number of sequential PLC addresses to plot.

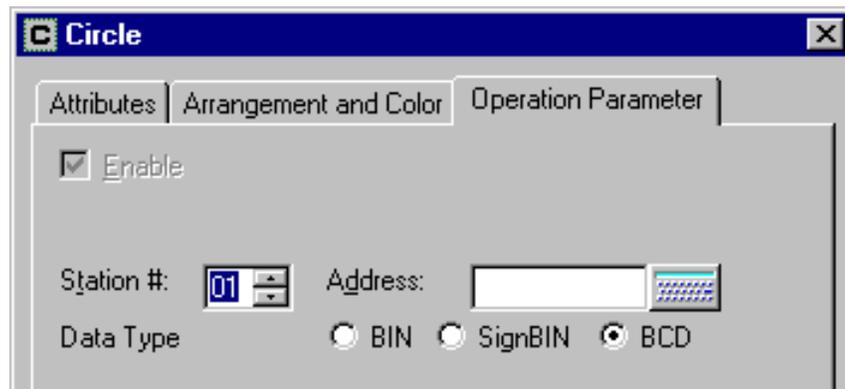
- **Start Angle** specifies starting clockwise angle of the circle chart (None, 90, 180, or 270 degrees) where *None* is vertical.

Circle Arrangement and Color Tab



- Arrangement Information**
 is only selectable when editing the contents of the part. This determines the size of the control by the location of the LeftTop corner and Diameter (Dot) in X and Y coordinates.
- Color of each Zone**
 is used to set the color of each zone (based on the Tile choice and Fore/Back colors).

Circle Operation Parameter Tab



- Enable**
 is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.
- Station**
 is used for applications where more than one PLC is connected to the panel. The default is 01.

- **Address**

refers to the single (or first, if not sampling) PLC word address assigned to the control. If no sampling is used, the value of the address becomes the first zone displayed, the values of the addresses following the first become the second zone, third zone and so on.

- **Data Type**

specifies the data type of the PLC address. This must be correct for the panel to communicate with the PLC.

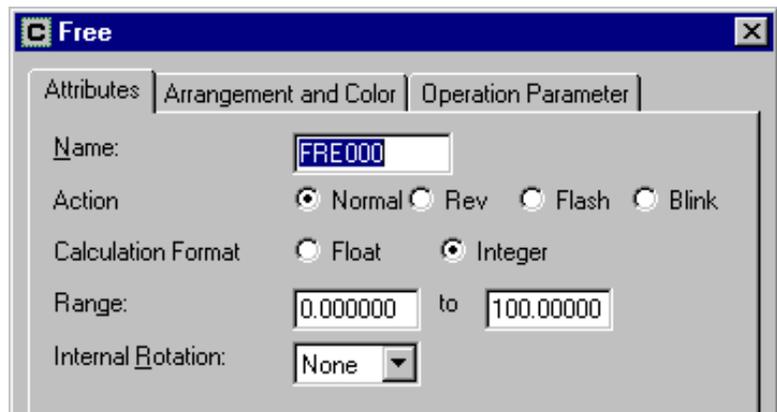
* **BIN** is binary, or base 2.

* **SignBIN** is signed binary, or base 2 with the 2s complement.

* **BCD** is binary-coded decimal.

Free

Free Attributes Tab The Free control displays the value of one PLC word address as an area with color in a given shape. An example would be the shape of a tank filling up as the value approaches the maximum.



- **Name**

The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!

- **Action**

Action specifies how the display appears on the screen.

* **Normal** is the default, displaying the text in the Text Color.

* **Rev** replaces the original background color with the reverse color (15–original).

* **Flash** alternates between *Normal* and *Rev* in 1 second intervals.

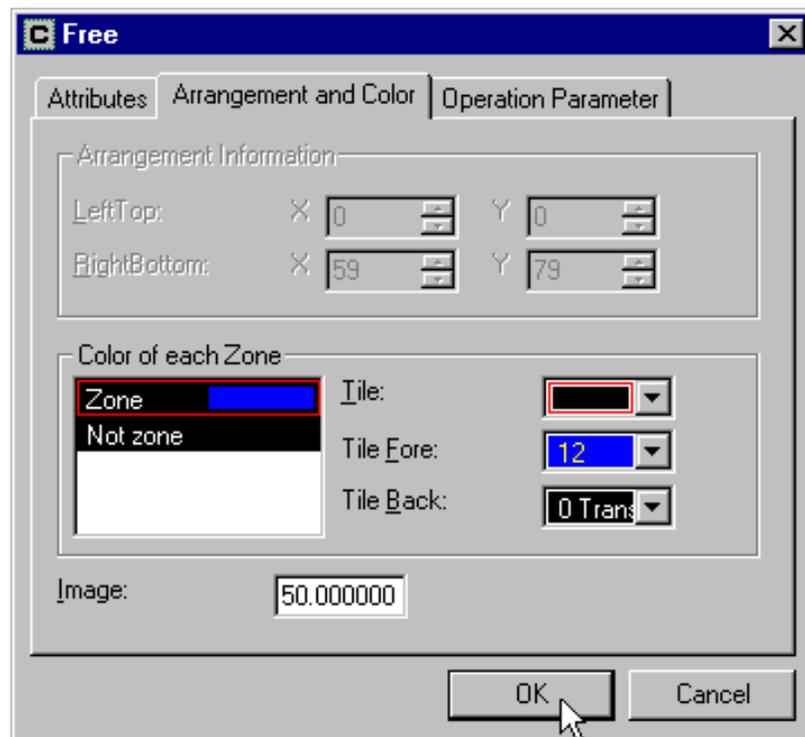
* **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.

- **Calculation Format** is used if a scaling formula is used (see Scale under the Operation Parameter Tab, below). Integer is faster than Float (Floating Point), but is less accurate.

- **Range** specifies the minimum and maximum values displayed.

- **Internal Rotation** specifies a clockwise rotation angle of the figure (None, 90, 180, or 270 degrees).

Free Arrangement and Color Tab



- **Arrangement Information**

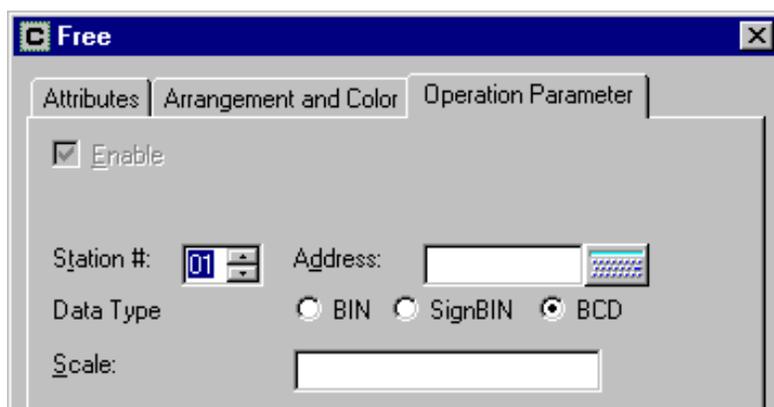
is only selectable when editing the contents of the part. This determines the size of the control by the location of the LeftTop and RightBottom corners (in X and Y coordinates).

- **Color of each Zone**

is used to set the color of each zone (based on the Tile choice and Fore/Back colors). The first area is the *Zone* itself, representing the value displayed; and the second area, labeled *Not zone* is the remaining area inside the control.

- **Image** specifies the value displayed in ScreenCreator only. If the Range, above, was 100 and the image was 50, the free part on the screen would display one half of the height.

Free Operation Parameter Tab

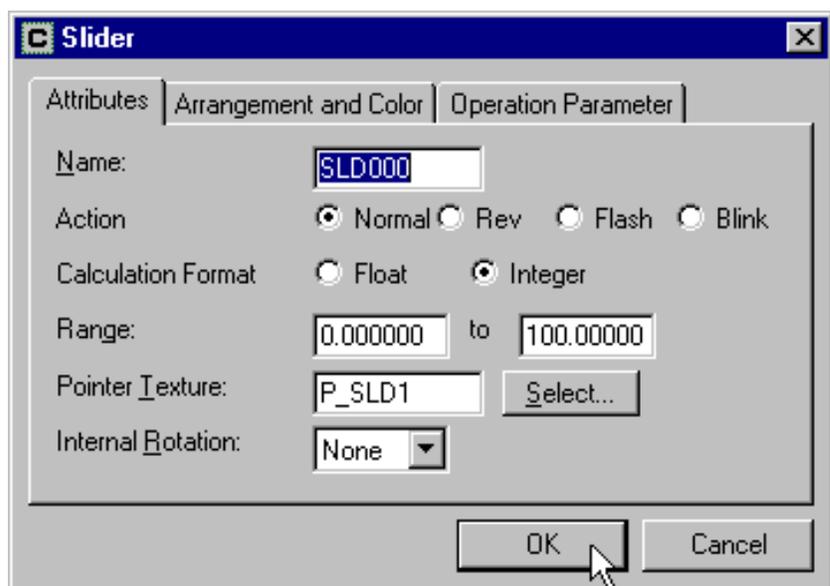


- Enable**
 is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.
- Station**
 is used for applications where more than one PLC is connected to the panel. The default is 01.
- Address**
 refers to the single PLC word address assigned to the control. The free control then indicates the value of the address.
- Data Type**
 specifies the data type of the PLC address. This must be correct for the proper value to be displayed by the numerical display.
 - * **BIN** is binary, or base 2.
 - * **SignBIN** is signed binary, or base 2 with the 2s complement.
 - * **BCD** is binary-coded decimal.
- Scale**
 allows the value from the PLC address (represented by 'X') to be scaled by a formula. All numbers (0–9), the following symbols : *, /, +, -, (,), and the decimal point may be used in the calculation. The value resulting from the calculation is then displayed as a zone. See *Scale under Numerical Display* earlier in this chapter.

Slider

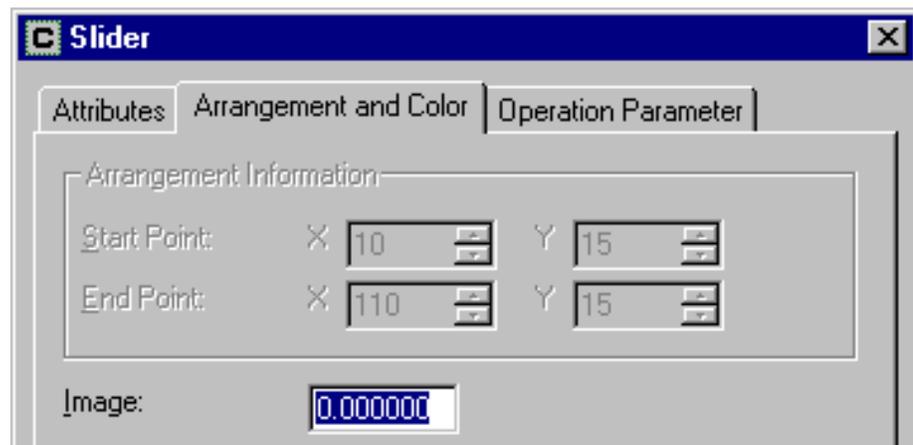
Slider Attributes Tab

The Slider control displays the value of one PLC word address as a meter with a sliding pointer.



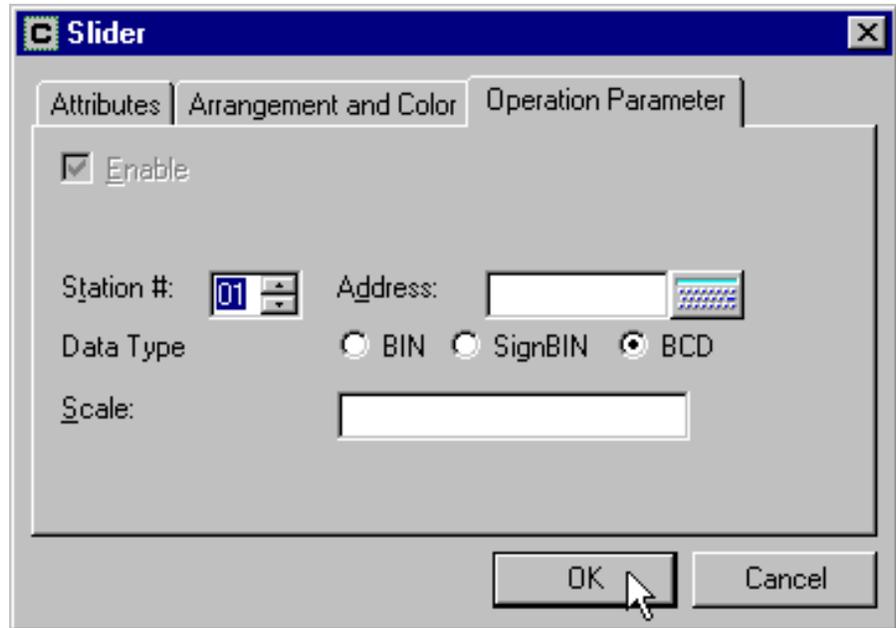
- **Name**
The name must begin with a letter and may be 8 alphanumeric characters total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!
- **Action**
Action specifies how the display appears on the screen.
 - * **Normal** is the default, displaying the text in the Text Color.
 - * **Rev** replaces the original background color with the reverse color (15–original).
 - * **Flash** alternates between *Normal* and *Rev* in 1 second intervals.
 - * **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.
- **Calculation Format** is used if a scaling formula is used (see Scale under the Operation Parameter Tab, below). Integer is faster than Float (Floating Point), but is less accurate.
- **Range** specifies the minimum and maximum values displayed.
- **Pointer Texture** specifies the existing texture to be displayed as the pointer.
- **Internal Rotation** specifies a clockwise rotation angle of the figure (None, 90, 180, or 270 degrees).

Slider Arrangement and Color Tab



- **Arrangement Information**
is only selectable when editing the contents of the part. This determines the size of the control by the location of the LeftTop and RightBottom corners (in X and Y coordinates).
- **Image** specifies the value displayed in ScreenCreator only. If the Range, above, was 100 and the image was 75, the pointer on the screen would indicate three quarters of the maximum.

Slider Operation Parameter Tab



- **Enable**

is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.
- **Station**

is used for applications where more than one PLC is connected to the panel. The default is 01.
- **Address**

refers to the single PLC word address assigned to the control. The slider then indicates the value in the address by position.
- **Data Type**

specifies the data type of the PLC address. This must be correct for the panel to communicate with the PLC.

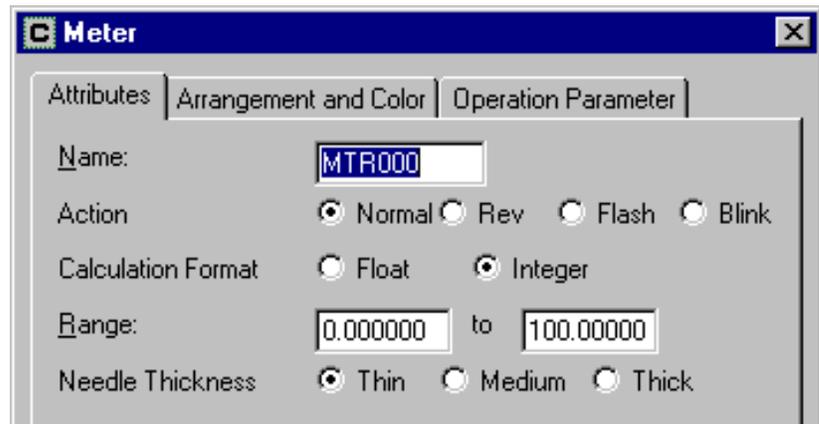
 - * **BIN** is binary, or base 2.
 - * **SignBIN** is signed binary, or base 2 with the 2s complement.
 - * **BCD** is binary-coded decimal.
- **Scale**

allows the value from the PLC address (represented by 'X') to be scaled by a formula. All numbers (0–9), the following symbols : *, /, +, -, (,), and the decimal point may be used in the calculation. The value resulting from the calculation is then displayed as a position. See *Scale under Numerical Display* earlier in this chapter.

Meter

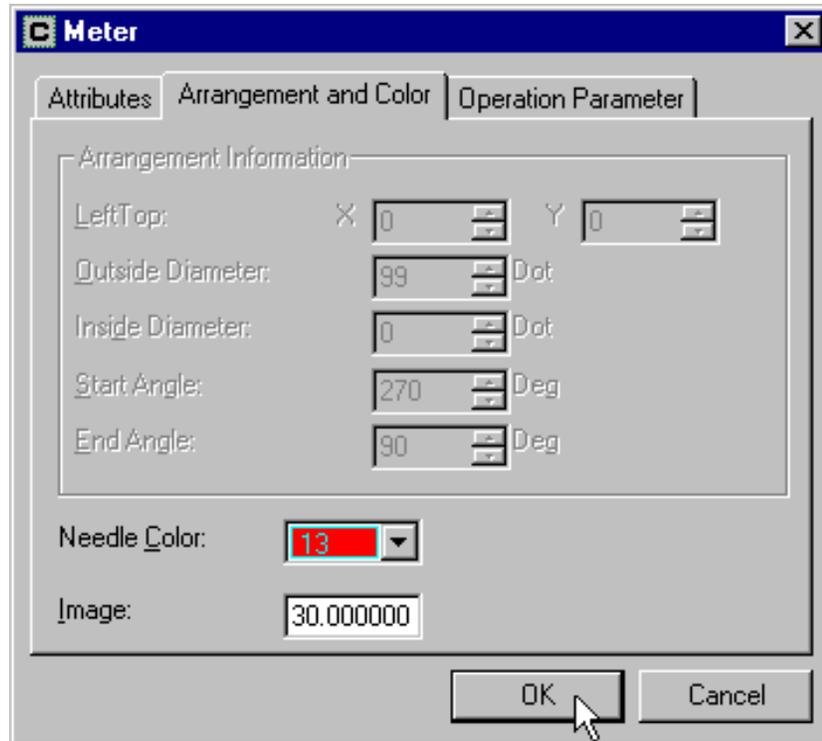
Meter Attributes Tab

The Meter control displays the value of only one PLC word address as a circular meter with a rotating needle.



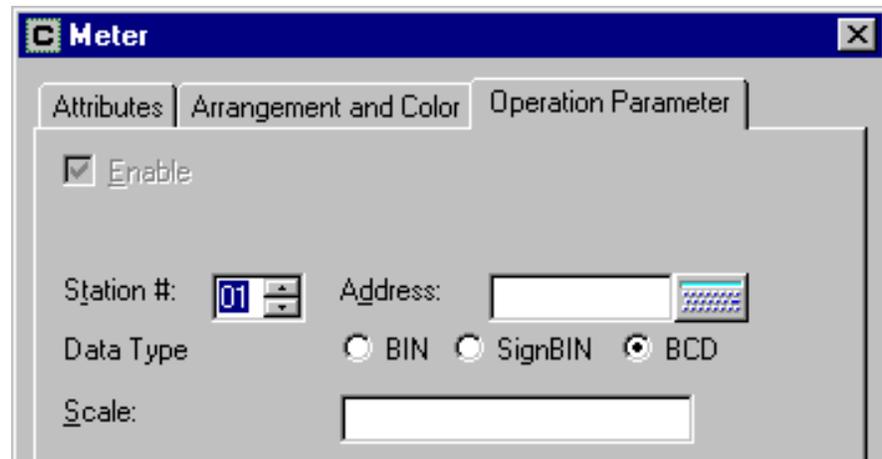
- **Name**
The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!
- **Action**
Action specifies how the display appears on the screen.
 - * **Normal** is the default, displaying the text in the Text Color.
 - * **Rev** replaces the original background color with the reverse color (15–original).
 - * **Flash** alternates between *Normal* and *Rev* in 1 second intervals.
 - * **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.
- **Calculation Format** is used if a scaling formula is used (see Scale under the Operation Parameter Tab, below). Integer is faster than Float (Floating Point), but is less accurate.
- **Range** specifies the minimum and maximum values displayed.
- **Needle Thickness** specifies the thickness of the indicating needle: Thin, Medium, or Thick.

Meter Arrangement and Color Tab



- **Arrangement Information** is only selectable when editing the contents of the part. This determines the size of the control by the location of the LeftTop corner and Inside and Outside Diameters in X and Y coordinates.
 - * **LeftTop** is the top left corner of the meter control.
 - * **Outside Diameter** is the outside diameter of the meter.
 - * **Inside Diameter** is the inside diameter of the meter.
 - * **Start Angle** is the reference angle (in degrees) for the needle showing the minimum value (from Range above). An angle of zero degrees is vertical.
 - * **End Angle** is the reference angle (in degrees) for the needle showing the maximum value (from Range above). An angle of zero degrees is vertical.
- **Needle Color** specifies the color of the needle.
- **Image** specifies the value displayed in ScreenCreator only. If the Range, above, was 100 and the image was 75, the pointer on the screen would indicate three quarters of the maximum.

Meter Operation Parameter Tab



- **Enable**

is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.
- **Station**

is used for applications where more than one PLC is connected to the panel. The default is 01.
- **Address**

refers to the single PLC word address assigned to the control. The meter then indicates the value in the address.
- **Data Type**

specifies the data type of the PLC address. This must be correct for the panel to communicate with the PLC.

 - * **BIN** is binary, or base 2.
 - * **SignBIN** is signed binary, or base 2 with the 2s complement.
 - * **BCD** is binary-coded decimal.
- **Scale**

allows the value from the PLC address (represented by 'X') to be scaled by a formula. All numbers (0–9), the following symbols : *, /, +, -, (,), and the decimal point may be used in the calculation. The value resulting from the calculation is then displayed as the angle of the needle. See *Scale under Numerical Display* earlier in this chapter.

Light

Light Attributes Tab

The Light control is the most simple of all controls in ScreenCreator. It acts as an ON/OFF indicator just like a physical panel light does.



- **Name**
The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!
- **Action**
Action specifies how the display appears on the screen.
 - * **Normal** is the default, displaying the text in the Text Color.
 - * **Rev** replaces the original background color with the reverse color (15–original).
 - * **Flash** alternates between *Normal* and *Rev* in 1 second intervals.
 - * **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.
- **Shape**
 - * **Rectangle** specifies the shape of the light as being that of a rectangle (or square).
 - * **Ellipse** specifies the shape of the light as being that of an ellipse (or circle).
- **Initial State**
sets the initial state of the part (ON/OFF) when the screen is displayed on the panel.

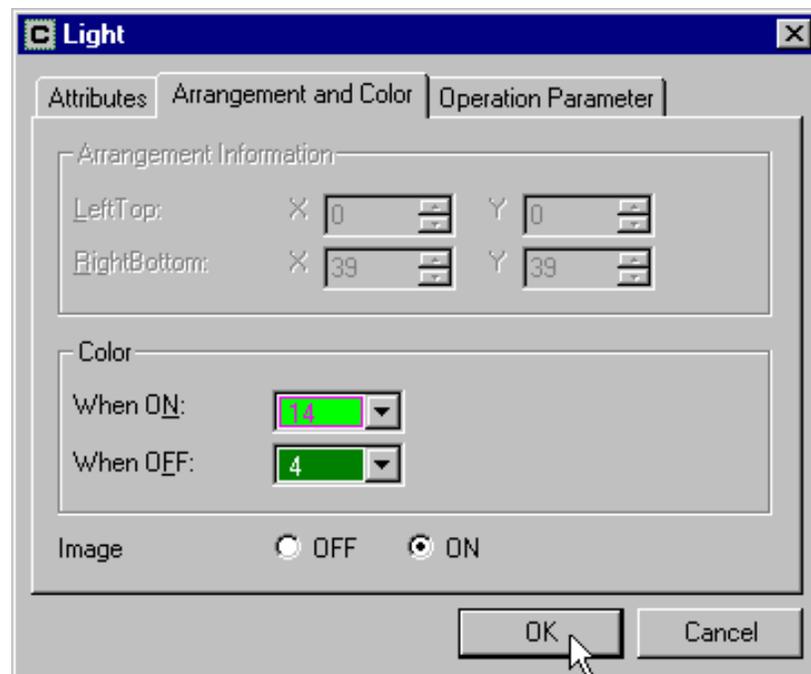
- **Duplicate**

is only selectable when editing the contents of the part. It creates multiple Lights in the direction(s) chosen. The additional lights reference the PLC bit addresses following the bit address of the control and go from left to right then top to bottom. *When duplicating, you must size the part border big enough for the duplicates: use Shift+x.*

If a light has a duplication of 2 in X and 2 in Y, and the bit address of the control was C2, then the bit addresses of the others would be as shown on the right.

C2	C3
C4	C5

Light Arrangement and Color Tab



- **Arrangement Information**

is only selectable when editing the contents of the part. This determines the size of the control by the location of the LeftTop and RightBottom corners (in X and Y coordinates).

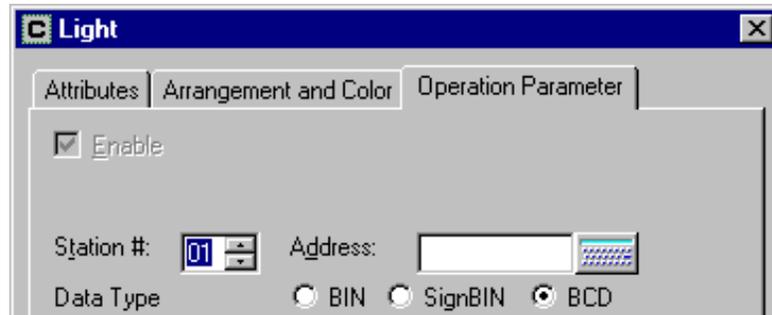
- **Color**

is used to set the colors which will be displayed within the control area. It works as if the control looks for every occurrence of the Color (and Texture) when OFF and replaces it with the Color (and Texture) when ON. Make sure that the background color (or the color of the circle or rectangle inside) of the part itself is the same as the Color when OFF, so the color of the part will change properly.

- **Image**

specifies which state (ON or OFF) the control will have on the screen in ScreenCreator alone. This does not affect the state of the PLC bit address or what is displayed on the panel itself.

Light Operation Parameter Tab



- **Enable**
is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.
- **Station**
is used for applications where more than one PLC is connected to the panel. The default is 01.
- **Address**
refers to the single (or starting if duplicate) bit address of the PLC of which the control reads from and indicates the status of.

There is no option of Synchronize for a light, since it is synchronized by definition. It displays the current state of the bit address in the PLC.
- **Data Type**
specifies the data type of the PLC address. This must be correct for the panel to communicate with the PLC.
 - * **BIN** is binary, or base 2.
 - * **SignBIN** is signed binary, or base 2 with the 2s complement.
 - * **BCD** is binary-coded decimal.

Pipe

The Pipe control is basically a special type of light control. It acts as an ON/OFF indicator, much like the light control, with two ON states (ON1 and ON2) and an OFF state. The state is determined by the number contained in the PLC address.

For example, if the address was V2000 and V2000 held 0 the state would be OFF.

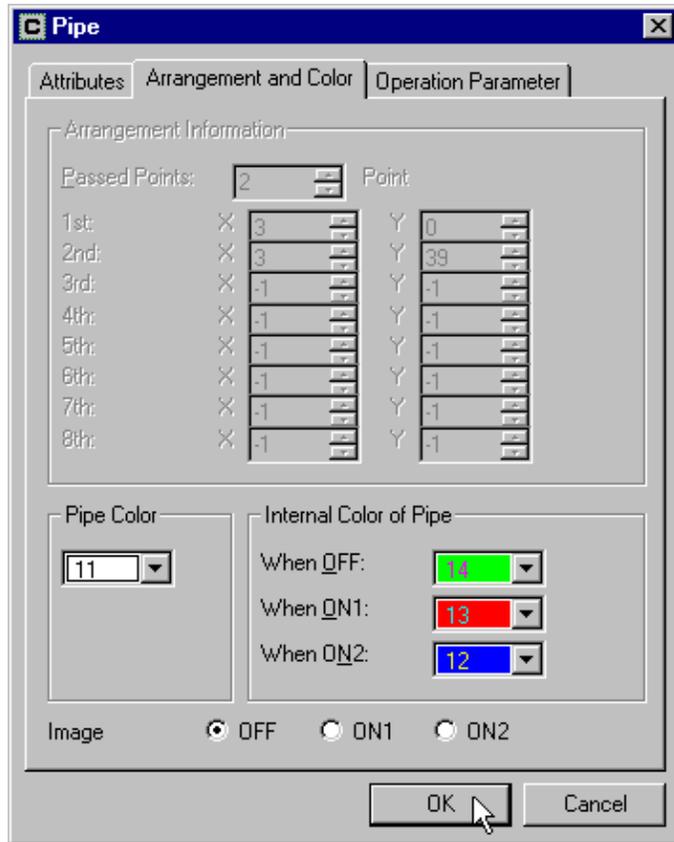
V2000	Color (Inside Pipe)
0	Green
1	Red
2 or more	Blue

Pipe Attributes Tab



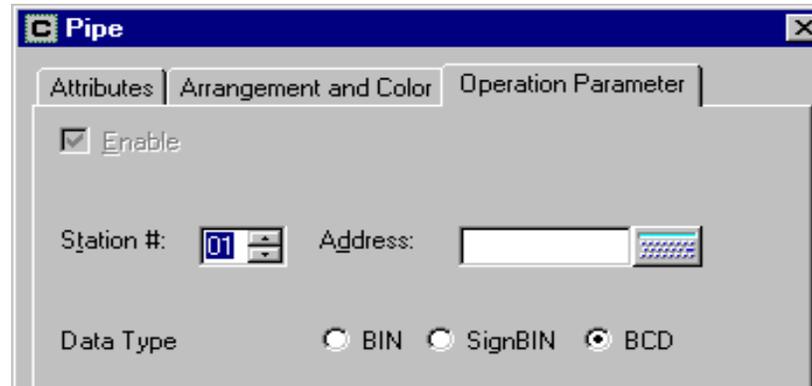
- Name**
 The name must begin with a letter and may be 8 alphanumeric total. The control name identifies the type of control and is particularly useful in parts having multiple controls. Be careful when changing the name of a control since the part program may refer to the name specifically and will not work if the name is changed!
- Action**
 Action specifies how the display appears on the screen.
 - * **Normal** is the default, displaying the text in the Text Color.
 - * **Rev** replaces the original background color with the reverse color (15–original).
 - * **Flash** alternates between *Normal* and *Rev* in 1 second intervals.
 - * **Blink** flashes the number ON/OFF (in *Normal* color) in 1 second intervals.
- Pipe Thickness** in pixels or dots: 1, 3, 5 or 7.
- Initial State**
 sets the initial state of the part ON1/ON2/OFF when the screen is displayed on the panel.

Pipe Arrangement and Color Tab



- Arrangement Information**
 is only selectable when editing the contents of the part. This determines the size of the control by the number of passed points and location of each point (in X and Y coordinates).
- Pipe Color**
 specifies the color of the pipe outline itself.
- Internal Color of Pipe**
 is used to set the colors which will be displayed within the control area for each state. It works as if the control looks for every occurrence of the Color (and Texture) when OFF and replaces it with the Color (and Texture) when ON1 or ON2. Make sure that the background color (or the color of the circle or rectangle inside) of the part itself is the same as the Color when OFF, so the color of the part will change properly.
- Image**
 specifies which state (ON1, ON2 or OFF) the control will have on the screen in ScreenCreator alone. This does not affect the state of the PLC bit address or what is displayed on the panel itself.

Pipe Operation Parameter Tab



- **Enable**
is only selectable when editing the contents of the part. This enables the Operation Parameter to operate the control (as opposed to the part program doing so). When enabled, the control is listed under *Operation Parameter* in the Part Properties box and *Details Edit* is selectable, which opens the Control dialog box above (with the three tabs). If not enabled, the part must have a program in order to operate properly.
- **Station**
is used for applications where more than one PLC is connected to the panel. The default is 01.
- **Address**
refers to the single register address (example: V2000 for DirectLOGIC and N7:0 for Allen-Bradley) of the PLC of which the control reads from and indicates the status of.

There is no option of Synchronize for a pipe, since it is synchronized by definition. It displays the current state of the bit address in the PLC.
- **Data Type**
specifies the data type of the PLC address. This must be correct for the panel to communicate with the PLC.
 - * **BIN** is binary, or base 2.
 - * **SignBIN** is signed binary, or base 2 with the 2s complement.
 - * **BCD** is binary-coded decimal.