

Visual VIGO version 1.06

Components and Component Elements

Manual

GB

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Contents

1	General Information	5
2	Visual VIGO Components in design mode.....	6
2.1	Work floor	6
2.2	Bar-graph.....	6
2.2.1	Bar-graph bar function	8
2.3	Track-bar	8
2.4	Data Acquisition	9
2.5	Chart.....	10
2.5.1	General Chart functions	11
2.5.2	Main Layout.....	11
2.5.3	Chart Area Layout	12
2.5.4	Axis.....	12
2.5.5	Font	13
2.5.6	Grid Layout.....	13
2.5.7	Colour.....	14
2.6	Curve	14
2.6.1	Button layout	15
2.6.2	Line.....	15
2.7	Database Grid	15
2.8	Two state Component.....	16
2.8.1	Two State enable	18
2.9	Execute.....	19
2.10	Monitor Line.....	20
2.11	Image.....	21
2.12	Open.....	21
2.13	Close	22
2.14	Value/Text	23
3	Visual VIGO Components in run mode	24
3.1	Work floor	24
3.2	Bar-graph.....	24
3.3	Track-bar	24
3.4	Data Acquisition	25
3.5	Chart.....	25
3.6	Curve	27
3.7	Database Grid	28
3.8	Two state Component.....	30
3.9	Execute.....	31
3.10	Monitor Line.....	31
3.11	Image Container.....	34
3.12	Open.....	34
3.13	Close	34

3.14	Value/Text	34
4	Visual VIGO Component elements	35
4.1	Boolean	35
4.2	Byte	35
4.3	Integer	35
4.4	Real	35
4.5	String	35
4.6	Drop-down List	35
4.7	Text.....	36
4.8	Timer	36
4.9	Variable Link (VIGO)	37
4.10	Variable Link (VIGO TIMER).....	38
4.11	Image.....	39
4.12	Frame	41
4.13	Scale.....	41
4.14	File selection	44
4.15	File selection	45
4.16	Input - Output function.....	45
4.17	Action.....	47
4.18	Colour.....	48
4.19	Font	48
4.20	Text and value Format	49

1 General Information

This manual includes *Visual VIGO* design and run time help on *components* and *component elements*. The same information is available as context help when using Visual VIGO, by pressing <F1>. See also, the *Visual VIGO version 1.06 General help* (550 388 01) manual.

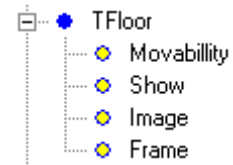
2 Visual VIGO Components in design mode

2.1 Work floor



The *Work floor* is the most basic standard *Visual VIGO* component, and all designs contain at least one by default. It is a surface, foundation or mounting base, onto which other components can be placed. A *Work floor* initially appears as a non-transparent rectangular surface, which can be resized with the mouse in *Design mode*. It can be framed if required. The surface of a *Work floor* can be covered with a particular image, texture or colour, which can be selected from the *Image* property element.

A *Work floor* can be movable or fixed in *Run mode*. By default, *Work floors* are movable. Additional *Work floors* can be mounted on top of the main *Work floor*, and others can be mounted on top of those, to unlimited levels. A choice can be made using the *Show* element, as to whether a *Work floor* contained within another *Work floor* can only be visible when the local *Work floor* is also open.



Movability

The purpose of this component element is to determine whether this *Work floor* component can be moved or not, when in *Run mode*. It is selected from a *drop down list* having two possible choices. See Boolean (Page 35) element.

Show

This component element determines whether a *Work floor* that is contained within a parent *Work floor* can still be seen when the parent is closed. It is selected from a *drop down list* having two possible choices. See Drop Down List (Page 35) element.

Image

The *Work floor* surface can be covered by an image consisting of a colour, pattern or picture. See Image (Page 39) element.

Frame

The *Work floor* can be bounded with a configurable frame design. See Frame (Page 41) element.

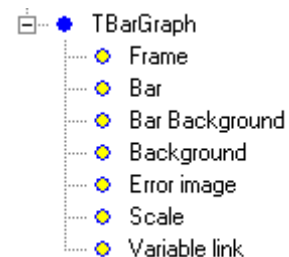
2.2 Bar-graph



This *Visual VIGO* component type is designed to show the value of a variable in the form of a Bar-graph. It is normally used to illustrate a varying analogue measurement.

The size, shape and scaling of the *Bar-graph* can be changed and can either be positioned over an image of a physical item, e.g. a tank, or used as an independent measuring instrument.

The *Bar-graph* component consists of a Bar having a bar image over a Bar Background image. The length of the bar image follows the value of the related



variable. The Background of the frame within which the scale and bar exists, can also consist of an image or colour. The *Bar-graph* can be rotated and mirrored.

Bar Graph Format

The Bar-graph component can be configured for three different fill modes; one band moving from edge to edge, two bands moving from edge to centre and two bands moving from centre to edge. See Bar Graph Bar Function (Page 8).

Frame

The outside extremities of this component can be bordered with a frame. See Frame (Page 41) element.

Bar

The dynamic bar within this component can be configured to be a colour, pattern or picture. See Image (Page 39) element.

Bar Background.

The space behind the moving bar can be configured to be a colour, pattern or picture. See Image (Page 39) element.

Background

The surface of the bar-graph can be configured to be a colour, pattern or picture. See Image (Page 39) element.

Error Image

In the event of a communication or hardware error an error image can be chosen, which will appear over the complete component boundaries. See Image (Page 39) element.

Scale

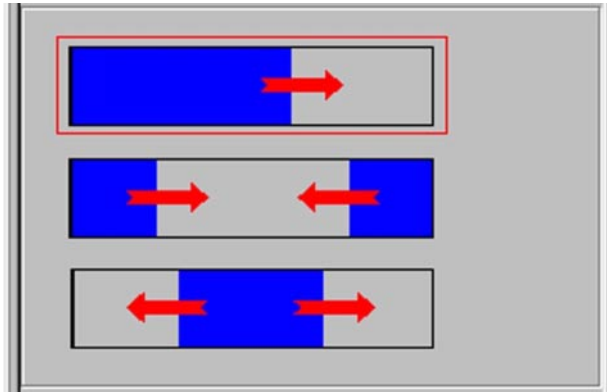
Full scale, Zero point, mark interval and scale reading and direction are configured using the Scale property. See Scale (Page 41) element.

Variable Link

The variable value the bar is required to follow is selected by means of the Variable Link component element. The update interval [sec] is a value defining how often the variable is accessed. See Variable Link (Page 35) element.

2.2.1 Bar-graph bar function

This property setting determines how the bar within a *Bar-graph* component behaves. The three formats are graphically illustrated in the form of a single bar starting from one edge, a dual bar starting from both edges towards the centre, and a bar starting from the middle and extending towards both edges. Click on the illustrations to select the desired format. The current selection is outlined in red.



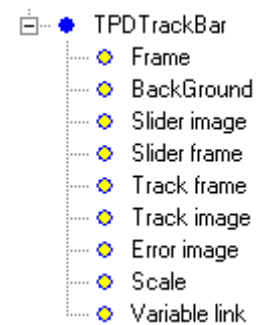
2.3 Track-bar



This *Visual VIGO* component type is designed to set the value of a variable by dragging the slider control with the mouse to the desired scaled value. This provides a fast way of, for example, entering a new set-point. The size of the *Track-bar* can be changed with the cursor. The component is bi-directional, in that if the linked variable value is changed from another source, the slider position will reflect the change.

The *Track-bar* can be vertical or horizontal and the scaling can be reversed. The value of the slider position updates the linked variable at a frequency determined by the configured update interval. When moving the slider, the value of the scaled position is immediately sent back to the variable. In *Run mode*, the left/right and/or up/down arrows on the keyboard can also be used to move the slider control.

The background of the indicator can be an image. If using a transparent background image, a *Bar-graph* component could also be located behind the *Track-bar* and grouped to make a composite control instrument.



Frame

The outside extremities of this component can be bordered with a frame. See Frame (Page 41) element

BackGround

The background of the *Track-bar* component is the surface onto which the track, slider and scale are located. An image can be chosen for this surface in the form of a colour, pattern or picture. See Image (Page 39) element.

Slider image

The movable slider can be configured to appear as a picture, pattern or colour. See Image (Page 39) element.

Slider frame

The movable slider can be configured to have a containing frame design surrounding a slider image. See Frame (Page 41) element.

Track frame

The track within which the slider moves can be bounded with a configurable frame. See Frame (Page 41) element.

Track image

The track within which the slider moves can be configured to be a colour, pattern or picture. See Image (Page 39) element.

Error image

In the event of a communication or hardware error an error image can be chosen, which will appear over the complete component boundaries. See Image (Page 39) element.

Scale

Full scale, Zero point, mark interval, and scale reading and direction are configured using the Scale properties. See Scale (Page 41) element.

Variable Link

The association of a variable with the scaled slider position is achieved by means of the *Variable Link* component element, where a Physical identifier (*PhysID*) is defined. The update interval [sec] is a value defining how often the variable is accessed. See Variable Link (Page 35) element.

2.4 Data Acquisition

This component provides the means to internally log acquired information from a particular field variable (Only simple types). Once configured, it will store a database of values over a period of time and in accordance with configuration settings. By including such a component within a design and configuring the Variable link for a particular PhysID, will allow a Curve component to use the logged information for display within its bounded chart. The data is saved as a PDDE component and can easily be accessed from any known windows application using the OLE interface implemented in the PDDE.



Use the links below to obtain further information about how to set the properties for the component elements.

Frame

A frame design can be chosen to border this component. See Frame (Page 41) element.

Caption

The caption layout can be changed from within the *Component tree*. See Text (Page 36) element.

Image

The surface of the component can be covered with a colour, pattern or picture, or can be made not to be visible within the design. See Image (Page 39) element.

Variable Link

The variable whose values are to be logged, is defined in this element, together with the logging period. See Variable Link (Page 35) element

Data expired interval

This property is used as a filter. The Filter value is indicated in days, meaning that recorded data older than the numbers of days indicated by the interval are automatically deleted. This filtering is applied every time new data are written.

2.5 Chart

This highly versatile component enables a designer to produce the basis for a dynamic, multiple series graphical chart. Such a chart needs to be configured in terms of its scales, captions, grids and colours for the base x axis and the left and/or right hand y axis. The component is closely allied to the *Curve* component, which uses the *Chart* to display its captured information. The chart frame and plot area can be resized independently. Furthermore, particular parts of the plot area can be zoomed in upon and/or scrolled along the time axis.

General chart settings

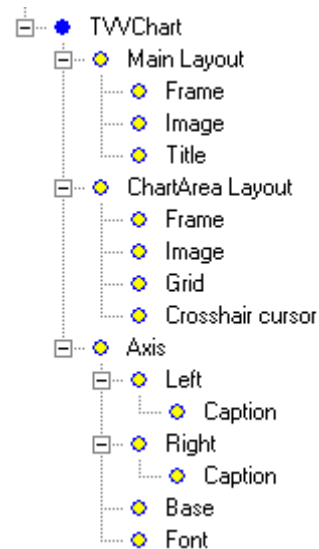
These settings set the general behavior of the chart. See General chart settings (Page 6).

Main Layout

This element contains a group of elements dealing with the appearance of the surrounding area of the chart, in terms of a frame, image and title. See the Main Layout (Page 11) element.

Chart Area Layout

This element contains a group of elements dealing with properties associated with the chart plot area. They apply to its frame and image, how the chart grids are configured and the colour of the crosshair cursor. See Chart Area Layout (Page 12)



Axis

This element contains a group of elements dealing with properties associated with how the left, right and base axes are scaled and identified. See Axis (Page 12) element

2.5.1 General Chart functions

These properties set the basic features of the *Chart* component.

Chart type	Analogue
Allow Scrolling	Both

Chart type

There are two possible selections available in the [Chart type] setting.

<Analogue>: If this selection is made, the curve drawn in the chart container is analogue.

<Digital>: If this selection is made the curve drawn in the chart container is digital.

Allow Scrolling

Use this setting to set the user's scrolling abilities. It is important to notice that it is impossible to scroll beyond the maximum and minimum settings on the axis.

<None>: No scrolling is allowed.

<Vertical>: It is possible to scroll the curve vertically.

<Horizontal>: It is possible to scroll the curve horizontally.

<Both>: It is possible to scroll the curve all directions.

2.5.2 Main Layout

The main layout applies to the area of the chart bordering the plot area. The associated component elements enable the designer to define whether a frame is shown around the structure, the ability to choose an image/colour to border the chart, and provides the facility to give the chart a title in any chosen font.

Frame (Page 41)

This element provides the means to choose a frame to border the Chart. See Frame (Page 41) element.

Image (Page 39)

This element provides the means to cover the area between the border and the plot section with an image. See Image (Page 39) element.

Title (Page 36)

A meaningful title, in a variety of Font sizes, styles and colours, can be given to the chart using this element. See Text (Page 36) element

2.5.3 Chart Area Layout

The component elements associated with Chart Area Layout define whether the plot area has a frame, what colour/image should be used as a plot background, whether a grid is associated with a particular axis and what colour the plot cursor should be.

Frame

Defines the frame around the chart area. See Frame (Page 41) element

Image

Defines the image appearing behind plot and grid lines, as a colour, pattern or picture. See Image (Page 39) element.

Grid

Determines whether grid lines are visible for each of the axis and a general grid colour. See Grid (Page 13) element.

Crosshair cursor

The cross hair cursor is used to determine the x and y value of a particular point on a selected plot. This is performed by placing the intersection of the cross hair on the plot line, and if the curve component is selected, will indicate the values in a movable window. This element determines the colour of the cross hair cursor. See Colour element (Page 14).

2.5.4 Axis

The component elements associated with Axis, determine the scaling and font used for each of the axes on the chart.

Left

Determines the scale properties for the left axis. See Scale (Page 41) element

Right

Determines the scale properties for the right axis. See Scale (Page 41) element.

Bottom

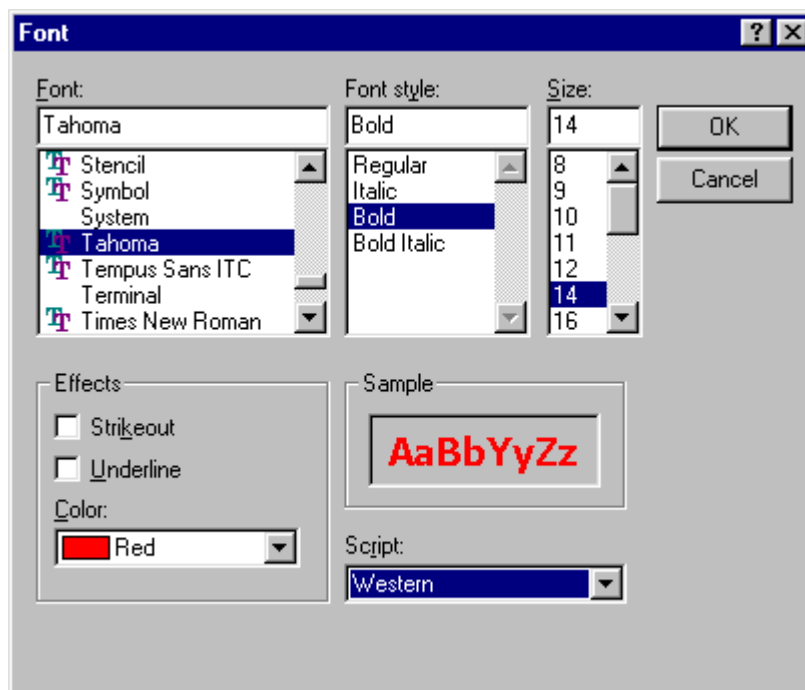
Determines the scale properties for the base axis. See Scale (Page 41) element

Font

Determines the general scale font type, size and colour for all visible axes. See Font (Page 13) element

2.5.5 Font

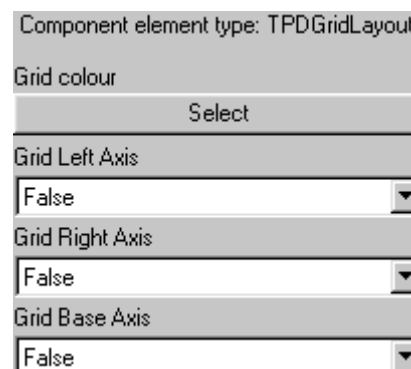
When it is required to choose a font type for a caption, label, scale, measurement etc., this selector will be presented. The font style, size and colour can be selected using the scroll bars and clicking upon a particular attribute with the mouse. A sample of what has been selected is shown in the Sample box. When satisfied, click the OK button to implement the change.



Designers should be aware that choosing a True Type (TT) font allows the text to be re-sized or zoomed without the definition of a character being affected.

2.5.6 Grid Layout

This component element defines whether sets of grid lines should appear on the chart that relate to the x, y and base axes. The lines can be presented in a chosen colour to ensure a contrast exists between the Chart background colour and the colours chosen for each curve. Press the [Grid colour] <Select> button to open the colour selection window.

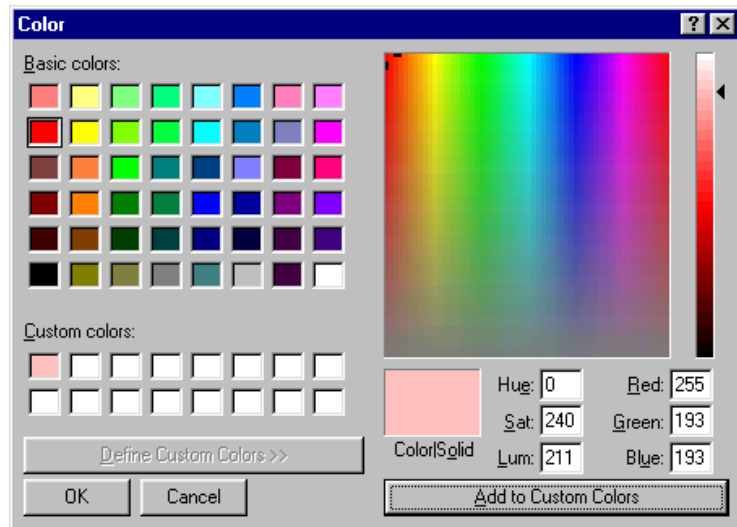


2.5.7 Colour

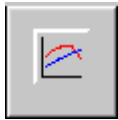
When it is required to define a colour for a background, line or pattern, the left half of this colour selector will appear. The current or chosen colour will be outlined with a black frame. Choosing a new colour is performed by clicking on one of the displayed colours with the mouse and then clicking OK.

Additional shades can be defined by selecting the Define Custom Colours button.

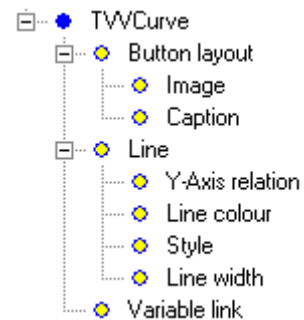
This will extend the selector to provide the means to define a very specific colour in terms of RGB mix, hue, saturation and luminosity. Such a colour can be saved as a custom colour for this and future use. The designer should be aware that utilising such a facility will only have a noticeable effect when the display monitor is set to a high colour resolution.



2.6 Curve



This component is placed inside the boundary of a *Chart* component. Its task is to link captured data associated with a single variable, to a particular line or plot on the chart. Displayed as a static button, it utilises the image and caption facilities offered by many other component types. The line properties enable the designer to associate the linked variable with a particular axis and have an associated style, width and colour. In specifying the *Variable Link*, the component will refer to included *Data Acquisition* components to find the one with the same *PhysID*. Thereafter, the link is complete.



Button layout

This group of elements determine how the button will be presented, in terms of an image and a textual caption. See Button layout (Page 15) element

Line

This group of elements determines how the plot line associated with this component will be presented on the chart, in terms of whether it is related to the left or right axis, and what its colour, style and width is. See Line (Page 6) element.

Variable Link

This element provides the means to associate the plot with a logged database of values stored by a *Data Acquisition* component. The variable chosen should be the same *PhysID*

as that defined by the associated *Data Acquisition* component. See *Variable Link* (Page 35) element.

2.6.1 Button layout

The component elements associated with Button layout apply to defining an image and a caption for the Curve component button.

Image

Defines the image used on the surface of the button. See *Image* (Page 39) element

Caption

Enables a textual caption to be included on the button surface. See *Text* (Page 36) element.

2.6.2 Line

The component elements associated with Line apply to setting properties dealing with whether the plot is to be related to the left or right Y axis, the required colour and width of the line, and whether the line is a solid plot or made up of individual logged points.

Y-Axis relation

Determines whether the plot line is associated with the left or right hand axis. See *Boolean* (Page 35) element.

Line Colour

Provides a choice of line colour. See *Line Colour* (Page 14) element.

Style

Determines whether the line is to be solid or presented as individual logged points. See *Boolean* (Page 35) element.

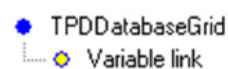
Line width

Provides the facility to define a line width in pixels. See *Byte* (Page 35) element.

2.7 Database Grid



This component provides the user with the ability to study collected logged data associated with a particular variable, in the form of a table. It is used in conjunction with a *Data Acquisition* component, which defines the link to and the logging parameters of the variable in question, and stores such data within a database. The means of making the connection between the *Database Grid* and the database is by defining the same *PhysID* as that defined for the logging *Data Acquisition* (Page 9) component.



When in *Run mode*, the user is provided with facilities to find certain data, by defining specific search criteria, based on log identity, value, time/date, or error text.

Variable Link

This element is used to define the same *PhysID* as that for the associated *Data Acquisition (Page 9)* component. See Variable Link element.

2.8 Two state Component



This *Visual VIGO* component type is designed to represent, and if required, change the state of a variable. It can be used to indicate and/or control the state of valves, pumps, switches, alarms, etc. having two pre-defined digital or analogue states. The state of the variable can be controlled, if enabled, by clicking the component, which will set, reset or toggle pre-set values using the left-hand mouse button. The component can also be configured to automatically change its image and a caption according to the pre-defined state of the related variable. For illustrating the two states, an “On” image and an “Off” image can be chosen.

An error image can also be used to signal component or transmission errors. Such an error image will be displayed on top of the normal image/s. When using an error image with transparent pixels, the normal image will still be able to be partially seen. New images can be selected by means of the *Presentation Selector*.

The variable that the *Two-state* component is required to control or follow, is selected by means of the *Variable link* component element. The update interval [sec] is a value defining how often the variable is accessed.

The configured high and low level values are used as toggle values, when controlling the variable (output function). For variables of Boolean type, the [Preset high level] value is normally set to “1” and the [Preset low level] value to “0”. For variables of integer or real type, any two distinct values can be set.

The image state of the component will change in accordance with the setting of the [Trigger level] (input function). The “On” state occurs when the variable value is higher than the pre-set trigger value. For variables of Boolean type, this would normally be set to 0.5. For integer or real values, the trigger value would be set to the average of the two preset levels.

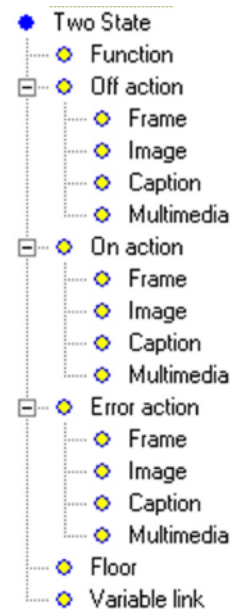
The input and output functions can be individually disabled if required. If the output [Function] is set to “None”, the Two state Component will only show the state of the variable, and cannot be used, by means of a mouse click, to change the value. If the input [Function] is set to “None”, only one image state will be seen no matter what the variable value is.

Two State Enable

The functionality of the *Two-state* Component is initially determined by selecting whether certain Actions are required to be used or not. The selection affects whether certain elements are included within the Component tree structure. See Two State Enable (Page 18).

Function

The properties within this element determine the required functionality of the Two-state component. This involves setting an input signal trigger level and output values for each of the two interactive states of the component. The effect on a linked variable when the button



is clicked, or the effect on the button position when a variable changes state, is also set within this element. See Function (Page 45) element.

Off Action

Having been enabled using the *Two-state* Enable selector, the *Off Action* facilities provided determine what will occur to the presentation of this component when it goes into the “Off” state. This event could take the form of a change in the look of a frame, perhaps to convey the impression that the virtual button has been released (OFF). This could also involve a change in image or caption, or trigger a sound or animation. If certain facilities are not required they can be disabled. See Action (Page 47) element.

On Action

Having been enabled using the *Two-state* Enable selector, the *On Action* facilities provided determine what will occur to the presentation of this component when it goes into the “On” state. This event could take the form of a change in the look of a frame, perhaps to convey the impression that the virtual button has been pressed in (ON). This could also involve a change in image or caption, or trigger a sound or animation. If certain facilities are not required they can be disabled. See Action (Page 47) element.

Error Action

Having been enabled using the *Two-state* Enable selector, the *Error Action* facilities provided determine what will occur to the presentation of this component when it goes into an Error state. If a communication or hardware error occurs, this event can be presented in the form of a change in the frame, image, caption and multimedia used. In the case of an error image, this will appear over the complete component, including any normal state frames. If certain facilities are not required they can be disabled. See Action (Page 47) element.

Floor

The *Two-state* component can also be used to open and close a referenced Work floor. Firstly, a copy of the reference of the particular Work floor is made from the right-hand menu of that *Work floor* (<Copy ref.>). Then, if the Floor control facility is enabled, the right-hand menu of the *Two-state* component will show the item <Paste ref.> Selecting this item will link the two components, and thereafter the *Two-state* component will control the visibility of the *Work floor*. The Floor reference property is held in the <Floor> element as a string of characters representing the name of the Work floor, and can be manually edited if required. See String (Page 35) element.

Variable Link

The element provides the means to define the physical identifier (*PhysID*) of the variable to which a communication link is required to be made with this component. This can be done by typing in the *PhysID* or selecting it from the MIB browser. It can also be determined whether the linked variable is to be automatically updated and how often. See Variable Link (Page 35) element.

2.8.1 Two State enable

This selection component element determines whether certain available properties are to be configured for the *Two-state* component type. Any item that is checked will enable additional

The screenshot shows a dialog box with a title bar and a list of five checked items:

- Enable On action
- Enable Off action
- Enable Error action
- Enable Floor relation
- Enable Variable link

element icons to be seen within the Component tree. The idea behind this facility is two-fold. Firstly, it ensures that the complexity of the tree view is reduced to a minimum, if certain functions are not used. Secondly, by selecting only the property configuration features needed for a particular component, reduces the amount of operational memory required.

Enable On action

On action properties apply to what is presented to the user when the *Two-state* component is in the “On” state. This may apply to the *frame*, *image*, *caption* and *multimedia* properties. If any of these properties are required, then this check box should be ticked. If none of the properties are to be used, then the check box should be left blank.

Enable Off action

Off action properties apply to what is presented to the user when the *Two-state* component is in the “Off” state. This may apply to the *frame*, *image*, *caption* and *multimedia* properties. If any of these properties are required, then this check box should be ticked. If none of the properties are to be used, then the check box should be left blank.

Enable Error action

Error action properties apply to what is presented to the user when the *Two-state* component is in an Error state. This would normally occur when the component is linked to an external variable. This may apply to the *frame*, *image*, *caption* and *multimedia* properties. If any of these properties are required, then this check box should be ticked. If none of the properties are to be used, then the check box should be left blank.

Enable Floor relation

The two state component can also be used as a single open and close component for *Work floors*. If this check box is ticked, an additional component element is made available on the tree, to enable a reference to be made to a specific *Work floor*. Such an element is not included in the tree if the box is left unchecked.

Enable Variable link

The ability to associate this component with an external variable is provided if this item is checked. It will provide an additional component element in the tree, in order to set the *PhysID*. If the component is not to be used with any external variable, then the item should be left unchecked.

2.9 Execute



The *Execute* component enhances the functionality of *Visual VIGO*, in that other applications can be called from within the design when in *Run mode*. It can be presented to the user in the form of a configurable style dynamic push button, incorporating a chosen image. The path to the executable file (.exe) is chosen from a standard file browser opened from within the Component element editor. Additional parameters can be appended using the *Execute params*. Component element. The component enables the user to open and close many useful associated applications, ranging from calling an active facsimile of the display and keyboard of one or more PD 4000 or PD 50xx controllers used within the system, through spread sheet and database monitoring, to making a dial-up connection or calling an external help file.



Executable File

An application file name and path needs to be defined for linking to the Execute component. The Executable File element provides the ability to define this with the use of a File Selector (Page 44). If an executable file is selected, *Visual VIGO* is able to both open and close the selected program. When selecting non-executable files the file associations of the particular file type defined in the operating system will be utilized, meaning that *Visual VIGO* will not be able to close the selected file.

Image

A colour, pattern or picture can be chosen to present the Execute component within a design. See Image (Page 39) element.

Caption

A Caption can be added to the *Execute* button and layout of the caption can be changed from within the *Component tree*. See Text (Page 36) element.

Up Frame

For normal static operational conditions when a linked application is not running or has been closed, a particular frame design can be chosen to border the component. See Frame (Page 41) element.

Down Frame

When the Execute component is clicked upon with the mouse to invoke an external application, the frame design can be changed, if required, to show that the application is running. When clicked again (toggled), the application will be closed, and the frame presentation will revert to the Up Frame design. See Frame (Page 41) element.

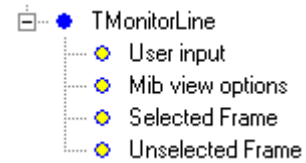
Execute params

Should further parameters be required to be associated with calling a particular application, e.g. to define a specific document within a program, they can be added within this element using a string of characters. See String (Page 35) Element.

2.10 Monitor Line



This single-line monitoring component is designed to provide the user with the means to view and change the value of a particular variable (*PhysID*) in *Run mode*. By means of its component elements,



the designer is able to define the frame style and colour for when the line is selected and unselected, and whether the value of the variable is able to be changed in *Run mode*. The component facilities have been designed with the needs of the *Run time* user in mind. For example, the means by which a *PhysID* is chosen is via a MIB button shown when the user double clicks on the *PhysID* field. This opens the VIGO MIB window, where the chosen *PhysID* can be selected. The line is divided into two parts, separated with a partition that can be dragged when in *Run mode*. The left section is reserved for details about the variable, whereas the right is used select and show values and error messages. By placing a number of these components in a column, a complete set of useful variables can be presented as a list in a configurable format. This component also has a *Run mode* right-hand mouse button pop-up menu associated with it. As with the standard *Monitor* utility within VIGO, these properties allow the data to be enhanced with colour, font type etc. The *Run mode* right-hand menu items are detailed below:

Show offset

This check selector determines whether the offset index number of a variable within a record is shown.

Show type

This check selector determines whether the name of the data type (e.g. Byte, Real etc.) is shown.

Enable Info

This check selector determines whether the variable is updated or not.

Refresh Rate

Opens a sub-menu, where a choice of No Update or a selection of update periods is given.

Field Colours

Apart from the frame, which is set in *Design mode*, the background colours of the monitor line fields can be selected.

Font

The font type, style and colour of the text used in each of the monitor line fields, can be selected from here.

Default setting

Any changes to the above setting will revert to their original settings, by clicking on this menu item.

User input

This element determines whether the user is permitted to change, and therefore update, the value of the variable being displayed during *Run mode*. It is configured using a Drop down list having two possible choices. See Boolean (Page 35) Element

MIB view options

This element determines how the *MIB viewer* is presented to the user, when the <MIB> button is pressed. This can vary between showing all MIB elements, or only nodes, or only Aliases. It is configured using a Drop Down List having three possible choices. See Drop Down List (Page 35) element

Selected Frame

When a Monitor Line component is being worked upon, i.e the mouse has been clicked within any part of it, the surrounding border can be made to display a particular frame design. The choice of frame is made within the properties of this element. See Frame (Page 41) element.

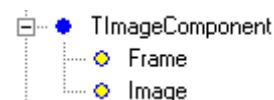
Unselected Frame

When the mouse pointer has been clicked on any area other than within this component, the surrounding border can be made to change to a different frame design. The choice of frame is made within the properties of this element. See Frame (Page 41) element.

2.11 Image



The Image component has no other functionality than to provide a resizable container for a static image. However, it does provide the facility for a frame to be chosen to border a picture, colour or pattern. A common use of this component



type would be to hold transparent images of static objects used once or many times within a design, but which have no links with variables and no control function. For example, images of pipework, tanks, partitions, machines, ancillary objects and equipment etc. Grouping a collection of such images together can be used to produce a composite image.

Frame

A frame design can be chosen to border the displayed Image. See Frame (Page 41) element.

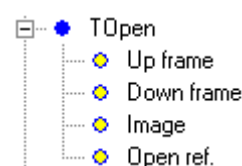
Image

The image displayed can be chosen to be a colour, pattern or picture. See Image (Page 39) element.

2.12 Open



This *Visual VIGO* component is designed to make a particular *Work floor* visible when it is clicked upon with the left-hand mouse button. The *Open* component contains a property referring to the specific *Work floor*. This



means that when the *Open* component has been positioned, the sub floor defined by the “*Open ref*” property can be opened (press <Ctrl> to do this in *Design mode*). An *Open* component can be invisible or have a fill pattern or other image on its surface. Also, two different frames can be chosen to visually indicate when the left-hand mouse button is being depressed.

Additional *Open* components can refer to the same *Work floor*.

An *Open* component can be made to control the opening of a particular *Work floor* by pasting a pre-copied reference to the floor, using right-hand menu functionality.

Up frame

Sets the appearance of the frame for the *Open* button when it is deactivated. See Frame (Page 41) element

Down frame

Sets the appearance of the frame for the *Open* button when it is activated. See Frame (Page 41) element

Image

Sets the Image shown on the *Open* button. See Image (Page 39) element.

Open ref.

This element defines the name of the *Work floor* that this component will open when it is activated. This can either be achieved by entering the name as a string of characters, or it will appear automatically when the component’s *Paste Ref.* right-hand menu item has been used. See String (Page 35) Element

2.13 Close



The *Close* component is specifically used to make a *Work floor* (except the Main *Work floor*) invisible. If a single or a number of *Close* components are placed on a particular *Work floor*, then activation during *Run mode* (or holding the <Ctrl> key down in *Design Mode*), will “close” that particular *Work floor*. Unlike the *Open* component, a *Close* component is automatically referenced to the *Work floor* onto which it has been placed. Two frames can be chosen to indicate the state of the mouse button.



Up Frame

Sets the appearance of the frame for the *Close* button when it is deactivated. See Frame (Page 41) element

Down Frame

Sets the appearance of the frame for the *Close* button when it is activated. See Frame (Page 41) element

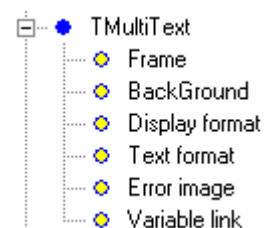
Image

Sets the Image shown on the *Close* button. See Image (Page 39) element.

2.14 Value/Text



The *Value/Text* component provides a versatile means of displaying and manually updating the value of a variable located remotely on the network, and can be shown in a variety of formats, sizes, colours and fonts. If no *Variable Link* is selected, the component can just act as a textual label, and if enabled, be used as an editable memo container for single or multiple line *Run mode* user notes.



Frame

A static frame design can be chosen to border this component. See Frame (Page 41) element.

BackGround

An image in the form of a colour, pattern or picture can be chosen as a background upon which measurement values or text will be placed. See Image (Page 39) element.

Display format

The way in which measurement data is shown in terms of the number of characters and decimal places displayed, is configured within this element. Also any leading or trailing text labels can be added here. See Format (Page 49) element.

Text format

The alignment, editability and colour, size and type of the font used for the characters displayed within this component, are set using the Text (Page 36) element

Error image

Should a communication or hardware error occur, a colour, pattern or picture image can be chosen to appear. Such an image will cover the whole component. See Image (Page 39) element.

Variable Link

If it is required to link this component to an external variable so that values can be displayed, it is necessary to define its Physical Identifier (*PhysID*). This is performed using the Variable Link (Page 35) element.

3 Visual VIGO Components in run mode

3.1 Work floor

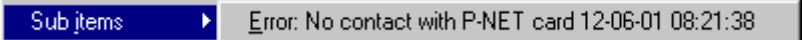
The work floor is the most basic standard *Visual VIGO* component, and all designs contain at least one by default. It is a surface, foundation or mounting base, on which other components are placed.

General

3.2 Bar-graph

This *Visual VIGO* component shows the value of a variable in the form of a Bar-graph. It is normally used to illustrate a varying analogue measurement.

Right mouse menu

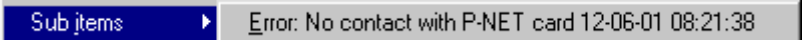
If a *VIGO* error occurs,  the right mouse menu will be made available. This menu has an item called <Sub items>. Selecting this item displays the *VIGO* error text of the last error.

General

3.3 Track-bar

This *Visual VIGO* component sets the value of a variable by dragging the slider control with the mouse to the desired scaled value. An alternative method of moving the slider, is by using the arrow keys on the keyboard. This provides a fast way of, for example, entering a new set-point. The component is bi-directional, in that if the linked variable value is changed from another source, the slider position will reflect the change.

Right mouse menu

If a *VIGO* error occurs,  the right mouse menu will be made available. This menu has an item called <Sub items>. Selecting this item displays the *VIGO* error text of the last error.

General

3.4 Data Acquisition

This component provides the means to internally log acquired information from a particular field variable. Once configured, it will store a database of values over a period of time and in accordance with configuration settings.

Right mouse menu

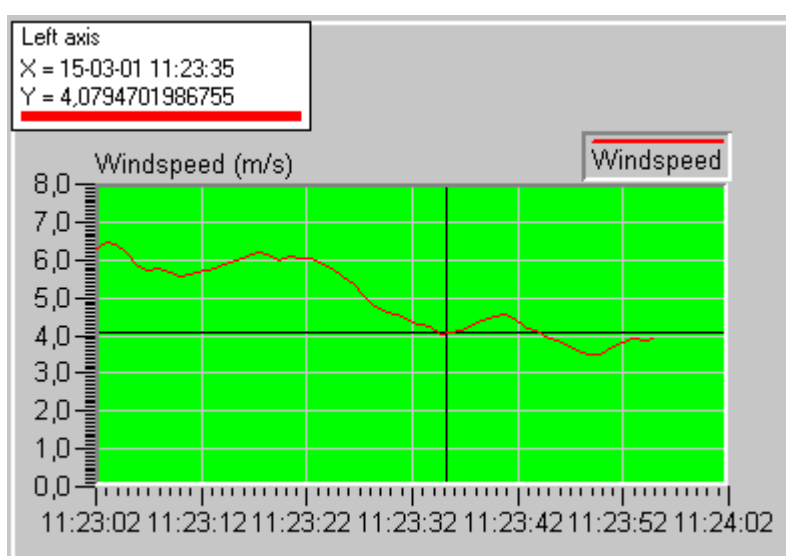
If a *VIGO* error occurs the right mouse menu will be made available. This menu has an item called <Sub items>. Selecting this item displays the *VIGO* error text of the last error.



General

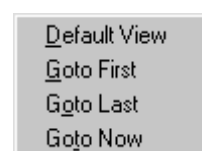
3.5 Chart

The chart component displays a series of measurements originating from the curve component (Page 14), as a curve drawn in the components chart area.



Right mouse menu in chart area

By clicking in the chart area with the right mouse button the following menu will appear.



- <Default View>: Returns the chart view to the original state. This means that the zoom resolution is returned to 100 % and that the display point is set to the last available data set.
- <Goto First>: Sets the display point in the chart area to the first available data set.
- <Goto Last>: Sets the display point in the chart area to the last available data set.
- <Goto now>: Sets the display point in the chart area to the present time.

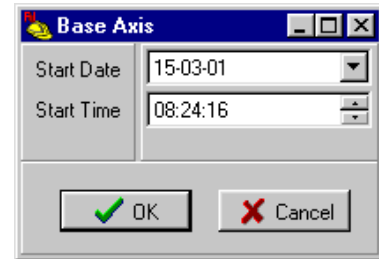
Right mouse menu on base axis

By clicking on the base axis with the right mouse button, the following menu will appear. From this menu the <Scale> item can be selected.



This menu item launches a window containing the following properties.

- Start Date: This setting indicates the start date of the first data entry shown on the base axis.
- Start Time: This setting indicates the start time shown on the base axis.



Moving visible area in chart

Pressing the left mouse button in the chart area and dragging it to the left or right will scroll the visible area in the chart view. If the chart view is in a zoomed state, it is also possible to scroll up or down.

Zoom in

Activating the <Shift> key while pressing the left mouse button and dragging the mouse from left to right over the area of interest, will draw a rectangle from where the mouse button was activated to where the mouse button is left to rest. Releasing the left mouse button will then cause the chart to zoom into the selected area defined by the rectangle.

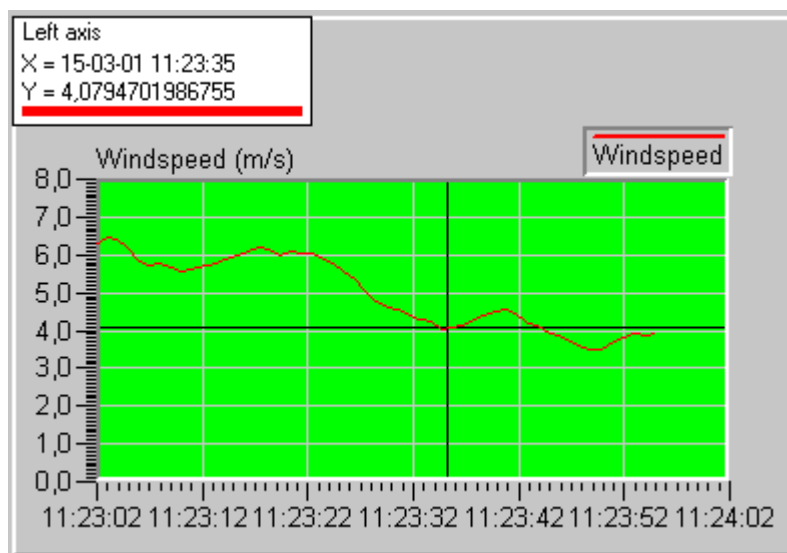
Zoom out

Activating the <Shift> key while pressing the left mouse button and dragging the mouse from right to left over the chart area, will draw a rectangle from where the mouse button was activated to where the mouse button is left to rest. Releasing the left mouse button will then cause the chart to return the visible area to the area visible before zoom in was activated.

General

3.6 Curve

The curve component links to a selected database, allowing it to display the data from the database as a curve in the chart component. Clicking with the left mouse button on the curve component enables the crosshair cursor in the chart view and the right mouse menu of the curve component



Crosshair cursor

When the curve component is activated, the crosshair cursor is visible in the chart area and an information box is displayed. Repositioning the cursor is performed by double clicking with the left mouse button in the chart area on a position of particular interest, or by activating the <Alt> key and then pressing the <Left arrow> or <Right arrow> on the keyboard. Using the keyboard will move the crosshair cursor in steps of 1 sec.

The crosshair cursor information box informs the user of what axis (left or right) that is used as the Y-axis for the selected curve component. Furthermore, the box displays the actual (X,Y) position of the crosshair cursor. Moving this box to an alternative location, is achieved by activating the left mouse button over the box and dragging it to a new location.

Left axis
X = 15-03-01 11:43:44
Y = 8,52980132450331

Right mouse menu

When the curve component is activated, the right mouse menu of the curve component is enabled. This menu contains the menu items described in the following items.

Max Peek Detection
Mjn Peek Detection
Local Max Peek Detection
Local Min Peek Detection

- Max Peak Detection: Finds the data entry in the database with the highest Y-value, and places the crosshair cursor at this data entry in the chart view.

- **Min Peak Detection:** Finds the data entry in the database with the lowest Y-value, and places the crosshair cursor at this data entry in the chart view.
- **Local Max Peak Detection:** Finds the data entry in the visible chart area with the highest Y-value, and places the crosshair cursor at this data entry in the chart view.
- **Local Min Peak Detection:** Finds the data entry in the visible chart area with the lowest Y-value, and places the crosshair cursor at this data entry in the chart view.

General

3.7 Database Grid

The database grid component links to a selected database, enabling it to display the data from the database in the form of a table.

<i>Wind_Speed</i>				
	IDNo	Datetime	Value	ErrorCode
	1	15-03-01 14:38:35	4,95521402359009	0
	2	15-03-01 14:38:38	5,02739667892456	0
	3	15-03-01 14:38:39	5,07690048217773	0
	4	15-03-01 14:38:40	5,1414852142334	0
	5	15-03-01 14:38:41	5,57099342346191	0
	6	15-03-01 14:38:42	5,48343420028687	0
	7	15-03-01 14:38:44	5,33744812011719	0

Column width

Positioning the mouse cursor over the separation line in the column header between two columns and activating the left mouse button, enables resizing of the column to the left of the mouse cursor.

IDNo	Datetime	Value	ErrorCode
------	----------	-------	-----------

- ←||→ This is the image that the mouse cursor changes to, once it is correctly positioned between the two columns.

Scrolling in the grid

The following items describe how to scroll in the database grid.

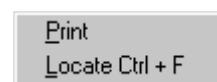
- <Arrow keys>: These keys step between adjacent cells in the grid.
- <PgUp> or <PgDown>: Use these keys to scroll either one page up or one page down in the database grid.
- <Ctrl>+<End>: Scrolls to the last ID number in the database.
- <Ctrl>+<Home>: Scrolls to the first ID number in the database.
- Scroll Wheel on mouse: Scrolls either up or down in database grid.

Selecting cells in the grid

Pressing the <Shift> key while scrolling with the <arrow keys>, <PgUp> or <PgDown> will cause a group of adjacent cells in the database grid to be selected.

Right mouse menu

This menu enables the selection of the following items



<Print>: When activating this menu item, a print dialogue appears. From this, the user can select a printer, the number of copies, and choose between printing the selected cells in the grid or the entire database. If the selected columns don't fit the paper, all columns outside the printer's right-hand margin are not printed.

<Locate Ctrl + F>: This menu item opens a window that enables the search for values in the active column that fulfil the criteria indicated by the user. The active column is the left most column in a selection. There are three kinds of data that can be displayed in a column. One is date and time, another is a decimal value and the last one is a string.

General:

Start a search by pressing the <OK> button, or cancel the search by pressing <Cancel>. If a search needs to be continued, the <F3> key is used.

Searching in date and time columns:

The search can be configured by the use of the following items.

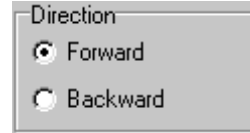
- In the locate window, input the search date and time.

 A dialog box titled 'Locate' with two input fields. The first field is labeled 'Date' and contains the text '15-03-01'. The second field is labeled 'Time' and contains the text '14:38:51'. Both fields have small downward-pointing arrows on their right sides, indicating they are dropdown menus.

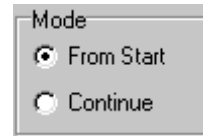
Searching numerical value columns:

The search can be configured by the use of the following items.

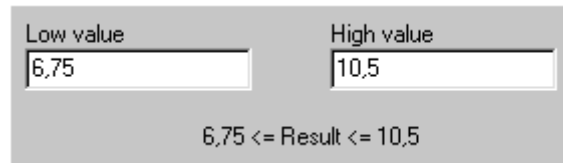
- <Direction>: Use this option to indicate the search direction. Choose between <Forward> or <Backward>.



- <Mode>: Sets the initial search cell in the grid. If <From Start> and <Forward> is selected, the start position of the search is set to the first ID number in the database. If <Backward> is selected, the start position of the search is set to the last ID number in the database. If <Continue> is selected, the search continues from the active cell in the direction determined by the <Direction> setting.



- Search criteria: Sets the range in which the search result values will be located.



Searching string columns:

The search can be configured by the use of the following items.

- <Direction>: See - Searching numerical value columns.
- <Mode>: See - Searching numerical value columns.
- Search criteria: Sets the search string.



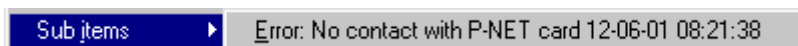
General

3.8 Two state Component

This *Visual VIGO* component represents, and if required, changes the state of a variable. The component is activated when the user clicks upon it with the left mouse button.

Right mouse menu

If a *VIGO* error occurs the right mouse menu will be made available. This menu has an item called <Sub items>. Selecting this item displays the *VIGO* error text of the last error.



General

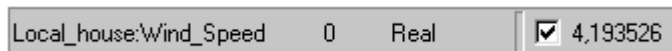
3.9 Execute

This *Visual VIGO* component starts an external process when it is clicked upon with the left-hand mouse button.

General

3.10 Monitor Line

This single line monitoring component is used to view and



change the value of a particular variable (*PhysID*). The monitor line consists of several fields divided into two parts. These fields are separated with a partition that can be dragged, thereby resizing the two parts of the line. The left section is reserved for details about the variable, whereas the right is used to select and show values and error messages. The line has a right mouse menu associated with it, allowing the user to change the configuration of the line.

PhysID field

The Physical Identifier field is used to define which variable to display. The field can only be changed if it is in edit mode. The field's Edit mode is activated by double clicking on the field. Once in edit mode, the field changes its appearance and a <MIB> button is displayed. In edit mode there are two ways of changing the contents of the Physical Identifier field, either by keying in the changes directly or by clicking on the <MIB> button and selecting the variable from the project structure. If the changes are keyed in manually, the changes will be initiated by pressing the <ENTER> key, or by leaving the field. Pressing <ESC> will exit the field and any changes are not implemented.

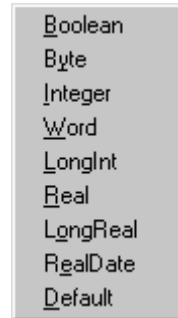
The format of a Physical Identifier entry normally consists of 'project name:node.variable name'. Example: 'Test:UPI1.SERVICE.WDTIMER'. The project identifier and the colon can in fact be omitted. It is then assumed that the Default Project, as previously specified, will act as the project identifier.

Manual input of a software number is performed by formatting the Physical Identifier as: 'Project identifier:Node identifier.Software number'. For example, 'SampleProject:UPI1.18' (or UPI1.\$12 in Hex).

Inserting a <SPACE> after the physical identifier will allow the user to type in a comment after the <SPACE>.

Type field

Normally, the MIB returns the data type of the selected variable. The data type is then automatically inserted into the Type field. Should the user choose to manually input a software number (see PhysID field), a manual adjustment of the data type needs to be performed. Choosing one of the data types from within the right mouse menu of the Type field, makes the adjustment. The selection is then displayed in the type field and the value of the variable is formatted in accordance with the selected type.



A manually selected type is displayed in brackets.

Data field

This field is used both as a display option and as an edit facility for the value of the variable selected in the Physical Identifier field. Changes can only be applied to the data field if the field is in edit mode. The data field's Edit mode is activated by double clicking on the field. When in edit mode, the edit field will change its appearance. In edit mode, the user can manually change the value of the selected data. The changes are initiated by pressing the <ENTER> key, or by leaving the data field. Pressing <ESC> will exit the field and any changes are not implemented.

The value can be displayed in various formats depending of the selection in the type field.

- If type field selection is from the list; Boolean, Byte, Integer, Word, LongInt, the options for the format are Dec, Hex or Bin.
- If type field selection is from the list; Real, LongReal, the user can choose the number of digits after the decimal point.

Placing the mouse cursor over the data field and clicking the right mouse button, will display a list of available formats from which a suitable format can be selected. The selection is then used in the format processing of the value.

Error messages, or any other information relating to a variable, are appended in the Data field. As default, only error messages are shown. Display of additional information can be enabled in the General right mouse menu <Enable Info>.

A check box in the data field enables or disables the automatic updating of the data value. The <refresh rate> used for updating the value is specified in the General right mouse menu menu. Although the automatic updating is disabled, the value of the selected data can still be changed manually.

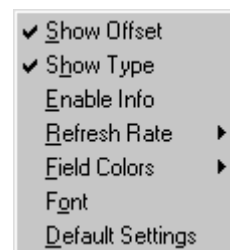
Offset Field

The value within this optional field is always assumed to be zero, for variables of simple data type. For variables of complex type (array or records), the Offset field can be used to manually define an offset, in bytes, to a sub element of the variable. Double clicking within the Offset field, enables the offset value to be changed from zero. However, this means that the Physical Identifier no longer fully represents the data value displayed.

The changes are initiated by pressing the <ENTER> key, or by leaving the data field. Pressing <ESC> will exit the field and any changes are not implemented.

General right mouse menu

The general right mouse menu is activated when clicking the right mouse button over the *PhysID* or *Offset* field. This menu contains the following menu items that can be used to change the configuration of the line.



<Show Offset>:

Show offset is used to enable the Offset field. The Offset field is disabled as default.

<Show Type>:

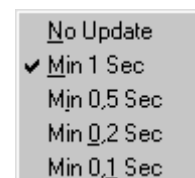
Show types is used to enable the Type field. The Type field is enabled as default.

<Enable Info>:

When reading or writing to a variable, an error message and/or other information relating to the variable, may be received from the node. The errors are always appended to the Data field. Any additional information is only appended if the <Enable info> function is enabled.

<Refresh Rate>:

The <refresh rate> menu item contains a sub menu from which an update speed can be selected. This setting determines the update speed indicated in seconds.



<Field Colours>:

The menu item contains a sub menu that allows the user to change the background colour of each field. Clicking on one of the field types opens a colour dialogue from which the background colour of the field can be selected.



:

The menu item opens a font dialogue from which the user can choose a new font for the line.

<Default Settings>:

The menu item returns the line to the default settings.

General

3.11 Image Container

The Image Container component displays a selected static image within its borders



General

3.12 Open

This *Visual VIGO* component makes a particular work floor visible when it is clicked upon with the left-hand mouse button.



General

3.13 Close

This *Visual VIGO* component makes a particular work floor (except the Main Work Floor) invisible when it is clicked upon with the left-hand mouse button.



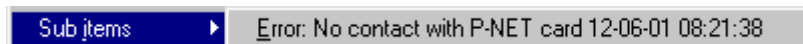
General

3.14 Value/Text

The Value/Text component is used to either display a variable value located remotely on the network or just some simple text on the screen. In some cases, the run time user can edit the text.

Right mouse menu

If a *VIGO* error occurs, and the Value/Text component is displaying a variable, the right mouse menu will be made available. This menu has an item called <Sub items>. Selecting this item displays the *VIGO* error text of the last error.

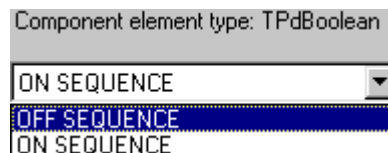


General

4 Visual VIGO Component elements

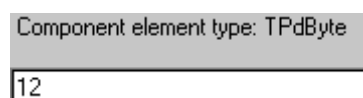
4.1 Boolean

The Boolean is a *Visual VIGO* component element used to select between two predefined states that are equivalent to a “True or False” statement.



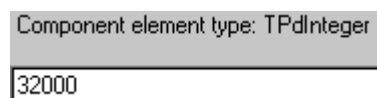
4.2 Byte

The Byte is a *Visual VIGO* component element used to hold a value in the range from 0 to 255.



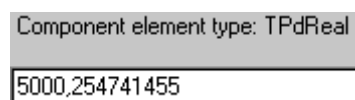
4.3 Integer

The Integer is a *Visual VIGO* component element that allows the creator of the design to change a signed integer value during design time.



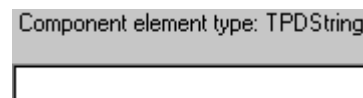
4.4 Real

The Real is a *Visual VIGO* component element used to change a decimal value during design time.



4.5 String

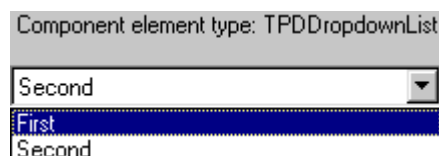
The String type Component Element is used when a string of characters is required to be input by the user and/or for showing the result of an automatic selection of a name or reference.



This Component element is used for the “Open Ref.” Component element for an *Open* Component and for the “Execute Params” for an *Execute* Component.

4.6 Drop-down List

The Drop-down List type Component element is used in situations where there is choice of two or more pre-determined property values. It is used with the **Floor**, **Monitor Line** and **Curve** components

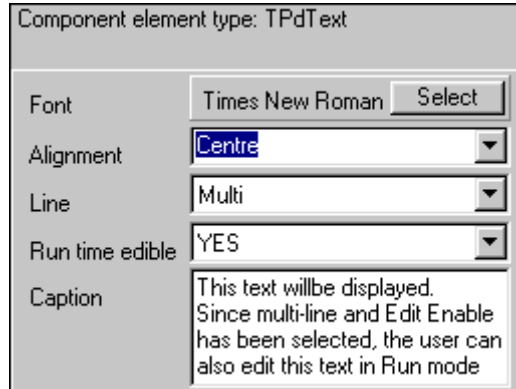


4.7 Text

Text is a *Visual VIGO* component element used to present some predefined text to the end user. The designer can choose whether to allow the user to change the text in run time mode. The text layout can also be configured to be within a single line text field or be word wrapped multiple line text.

Font

This property allows the user to change the font setting for the text object. By clicking on the <Select> button, a font selector will appear. See Font (Page 47) element.



Alignment

Select the appropriate alignment format to determine how text will be displayed. The choices are “left justify”, “right justify”, and “centre”. Some component property elements do not offer this facility.

Line

Set the text [Line] property to be either a “Single” line or “Multi”ple lines. Some component property elements do not offer this facility.

Edit enable

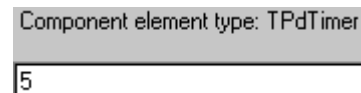
- Setting this property to “NO” means that the text can only be edited during design time. Setting it to “YES” means that the user can edit the text in run mode. Some component property elements do not offer this facility.

Caption

- Use this property to edit the text. Depending on the selected option in the line property, the edit field will either be displayed as a single line edit field or as an edit field capable of holding several lines.
- When editing text containing multiple lines, it will automatically word wrap. However, it is also possible to manually insert a carriage return in any position, by pressing the keys <Ctrl> + <Return>.

4.8 Timer

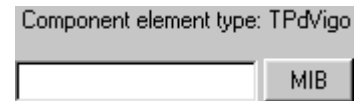
The Timer is a *Visual VIGO* component element used to assign a time interval to a *Visual VIGO* component property.



Applying a new timer value changes the timer interval. The interval is handled as a decimal value in seconds. The timer will automatically stop updating if zero is assigned to it.

4.9 Variable Link (VIGO)

Variable Link is a *Visual VIGO* component element used to select a *PhysID* at design time.



Use of edit field:

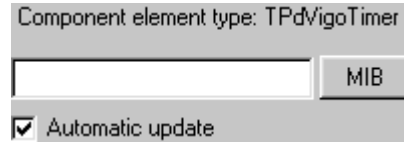
- The edit field displays the currently selected *PhysID*. Changes can be applied directly to the *PhysID* by entering a new *PhysID* in the edit field.

Use of <MIB> Button:

- Click on the <MIB> button and select a *PhysID* from the *MIBView* window.

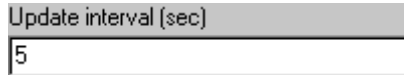
4.10 Variable Link (VIGO TIMER)

Variable Link is a *Visual VIGO* component element used to select the physical identity (*PhysID*) of a variable, in order to link it to the component. The element also determines whether the link is to be made and if so, the time period for communication updates to occur.



Automatic Update:

If Automatic Update is checked, another property element called Update Interval is shown beneath the checkbox. If selected, will show the edit window above.



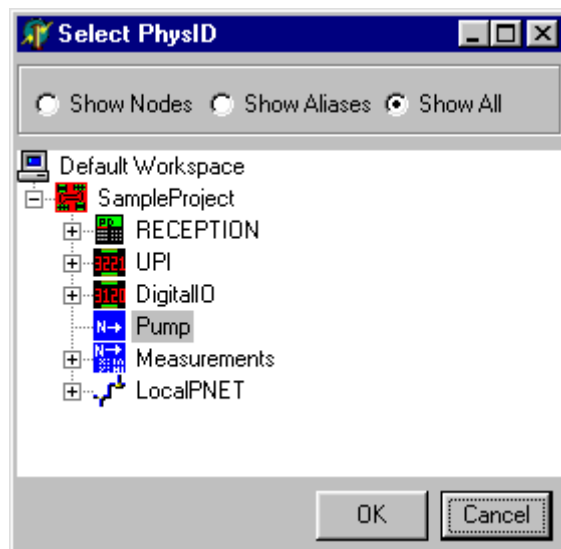
The decimal figure inserted in this field, determines how often the network is interrogated to obtain the value of the selected variable. If it is zero, no communication will occur.

PhysID

The edit field displays PhysID of the currently selected variable, Changes can be applied directly to this field by entering a new PhysID in the edit field.

Use of MIB Button:

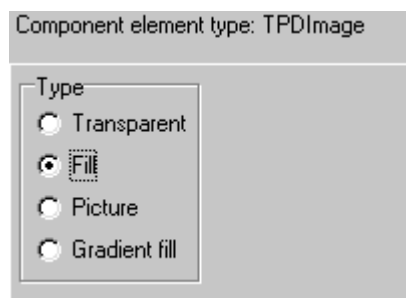
Click on the MIB button to select the variable from the Select PhysID (MIB) window.



4.11 Image

Image is a *Visual VIGO* component element used to create a visual image on a *Visual VIGO* component's surface. The properties are used for selecting the type and attributes of the image.

The properties of the image element are divided into two sections - a general section and a sub-section that changes in accordance with the selection made in the general section.



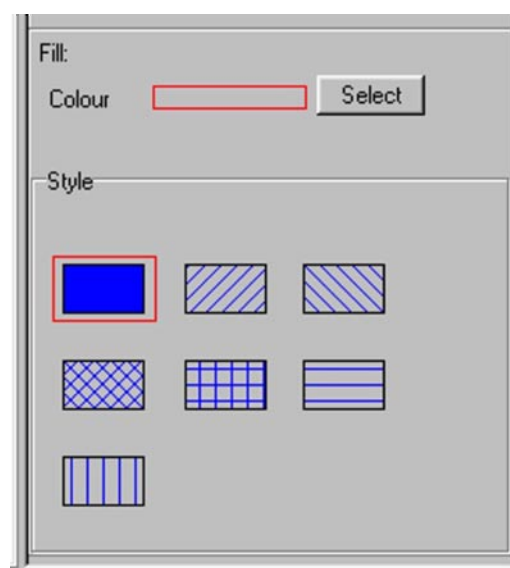
Type

Transparent:

Setting the image [Type] property to <Transparent> will make the surface of the image transparent. When a component has no frame and is transparent, it is invisible. There are no further property settings associated with this image type.

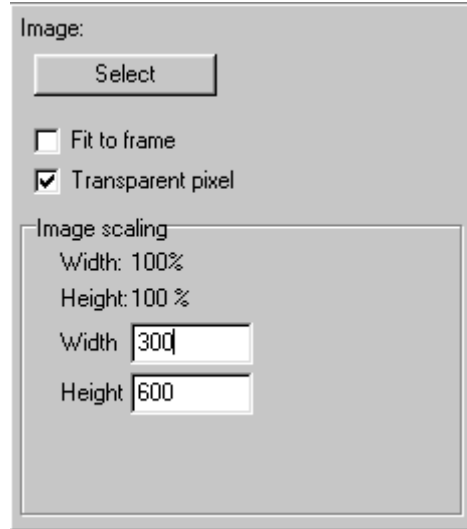
Fill:

- Colour: This property sets the fill colour that is to be used on the image surface. By clicking on the <Select> button a colour selector (Page 48) will appear. Use this to choose a suitable colour.
- Style: The fill style is selected by clicking on one of the images. The fill style currently selected is shown with a surrounding red frame.



Picture:

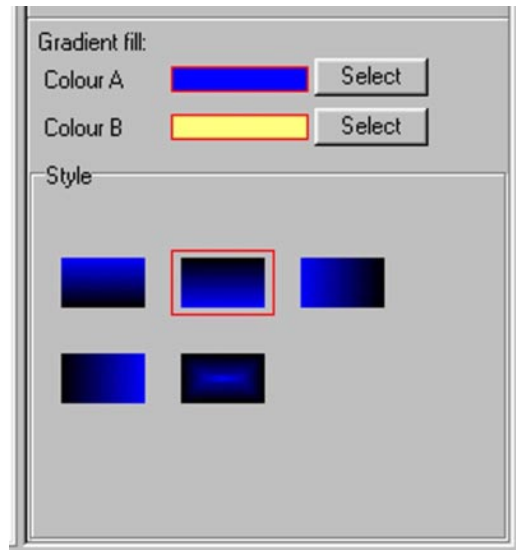
- **Select:** Click on this button and select a picture using the Presentation selector that will appear as a result of the click.
- **Fit to Frame:** If this option is enabled, the picture is automatically stretched to fit the image surface. If it is not enabled the [Image scaling] facility is automatically displayed.
- **Transparent pixel:** If this option is enabled, all pixels with the same colour as the pixel in the lower left corner of the image will be transparent. The images can be rotated, it is therefore recommended that the pixels in all four corners uses the transparent colour. Note that icons are always transparent regardless of the setting in this property. This is due to the picture format icons are created with.

**Image scaling:**

Use the width and height fields to assign the size of the image in the design. The values are indicated in percent of the Visual VIGO window width.

Gradient fill:

- **Colour A and Colour B:** A gradient is drawn as a floating transition between two distinct colours on opposite ends of the image surface, or from the outer edge to the centre. By clicking on the <Select> button for either [Colour A] or [Colour B], a colour selector (Page 48) will appear. Use this to select a new colour for either an edge or the centre.
- **Style:** The gradient style is defined by selecting one of the images in the property element. The gradient style currently selected is displayed in the property element with a surrounding red frame.

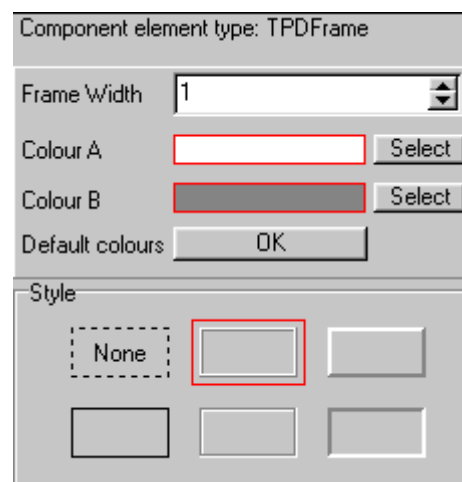


4.12 Frame

The Frame is a *Visual VIGO* component element used to create a frame around a part or the whole of a *Visual VIGO* component.

Frame width

The [Frame Width] property holds the actual width of the frame. The width is presented to the user as a pixels count. The maximum allowable width is 100 pixels, and the absolute minimum is 1 pixel. If the user attempts to exceed these limits, the actual value will automatically be adjusted either up or down, depending on which threshold is being violated.



Colour A / Colour B

The frame is drawn using two separate colours. The user can manually change these colours. By clicking on the <Select> button of either [Colour A] or [Colour B], a colour selector (Page 48) will appear. Use this to choose the required colour.

Hint: The optimal 3D effect is achieved using the default colours.

Default colours

Enabling this property, will load the default colours back into [Colour A] and [Colour B]. The use of default colours will apply the best 3D effect to the frame.

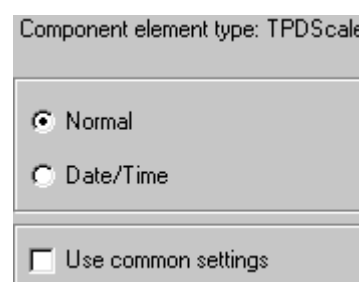
Style

The frame style is selected by pressing one of the images shown in the [Style] property element. Click on the text <None> if no frame is required. The actual frame style selected is shown with a surrounding red frame.

4.13 Scale

Scale is a *Visual VIGO* component element, used to set up a Scale associated with a particular component. It is commonly used with *Bar-graphs*, *Track-bars* and *Chart* components.

The properties of a Scale component element are divided into two sections, a general section and one of two sub sections that are displayed depending on the selection made in the general section.



Normal/DateTime

This property element determines the format and meaning of the numerals used within the scale. Selecting <Normal> will cause the Scale to use decimal values as indexes, whereas

the <Date/Time> setting will cause it to use a format based on time. Date/Time is normally used for *Chart* components.

Use common settings

If this option is checked, changes made to the scale element will automatically be implemented in all other scale elements that are in a group or are placed on the same *Work floor* and have the same option selected.

Normal:

- **Maximum / Minimum:** These properties indicate the maximum and minimum values that can be displayed by the scale object. Note that the [Maximum] value must be numerically larger than the [Minimum] value.
- **Step:** This property sets the interval between each decimal value displayed on the scale object. The gaps between the displayed values are automatically divided into 10 sub gaps, shown as markers on the scale object.
- **Digits:** This property determines the number of digits that are to follow the decimal point. The property is thus used to set the resolution of the displayed value. i.e. Setting this property to 1 and assigning a value of 10.5545 to the scale object, will cause the displayed value to be 10.6.

Normal	
Maximum	100,00
Minimum	0,00
Step	10,00
Digits	0
Visible	True
Invert direction	Execute
Font	Select

Date/Time:

- **Start time:** This property defines the start time that is displayed on the scale object. This is the equivalent of the minimum value described in the normal settings section.
- **Time span:** This property defines the time interval that is displayed on the scale object. The [Time span] uses the [Time unit]. This means, for example, that if "Seconds" is the current time unit and the value is 60, then the Time span is 60 seconds.
- **Step:** This property defines the interval between each time stamp, displayed on the scale element. [Step] uses the [Time unit]. This means, for example, that if "Seconds" is the current time unit and the value is 10, then a time stamp will be displayed for each 10 seconds. The gaps between the displayed time stamps are automatically divided into 10 sub gaps, shown as markers on the scale object.

Date/Time	
Start time	04-09-00 13:08:29
Time span	60,00
Step	10,00
Time unit	Seconds
Visible	True
Invert direction	Execute
Font	Select

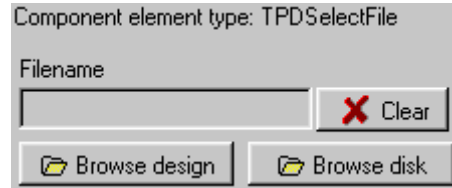
- Time unit: This property defines the time unit used by the properties [Time span] and [Step]. The available choices are Seconds, Minutes, Hours.

General settings for Normal and Date/Time:

- Visible: This property indicates whether the scale object is displayed or not.
- Invert direction: This property inverts the drawing direction of the scale object. i.e. If the scale object is drawn from bottom to top, an inversion will cause the scale to be drawn from top to bottom instead. The change is applied by pressing the <Execute> button.
- Font: This property defines the font settings used by the scale element. By clicking on the <Select> button a standard font selector will appear. Use the selector to change the font settings.

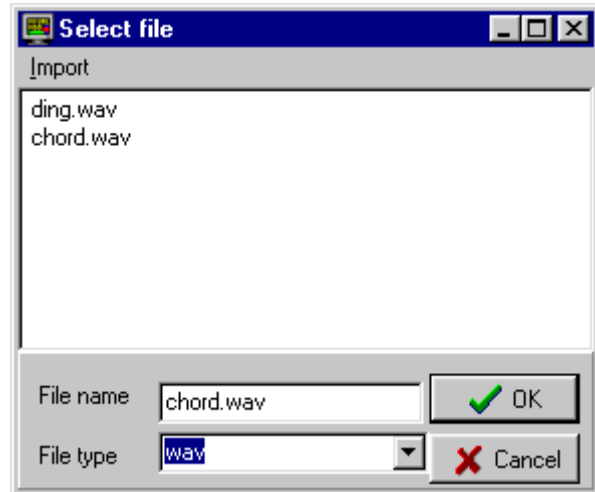
4.14 File selection

The File selection Component element is used to select files either from within the design or from an external source. It is also possible to import new files into a design thereby allowing the designer to distribute files with designs.



Browse design

By activating the <Browse design> button a window with the title [Select file] is opened. This window enables the selection of a file from within the design. The following options are available.



- <Import>: This menu item will open a file browser that enables the designer to import new files into the design.
- <OK>: This button accepts the designer's file selection.
- <Cancel>: This button closes the window without applying any changes.
- <File type>: This drop down list is used as a filter, determining which file types to display in the [Select file] window.

Browse disk

By activating the <Browse disk> button a file selector is opened. This selector is used to select a file from an external source. It is important to notice that these files are not saved within the design.

Clear

By activating the <Clear> button the reference to the current selection is removed.

4.15 File selection

The File selection Component element is used as a means selecting a file, for example when selecting a multimedia file for use as a sound when activating a component.

For detailed information on how to select a file see File Selector (Page 44)

Repeat Playing

By checking this box, the file will play until stopped by a change of component state. If the box is unchecked, the file will play once and then stop.

4.16 Input - Output function

The Input – Output function is a *Visual VIGO* component element used to either implement an output function following a change of state of a *Visual VIGO* component, or to set an input function that changes the appearance of a *Visual VIGO* component in accordance with the change of a variable value. The element is normally used with a *TwoState* component.

Common

Invert value: If this property is checked, it will cause the functions to invert their actions. This means that a high level is treated as a low level and vice versa.

Output

Following an event in *Visual VIGO*, the output sets the value of a variable to either the [Preset high level] or the [Preset low level].

Function:

- None: No output action is defined.
- Follow: Sets the output in accordance with the actual state of a *Visual VIGO* action. i.e. When a *Two-state* component is activated, this causes the [Preset high level] to be written to the selected variable. On release of the *Two-state* component, the value of the variable is changed to the [Preset low level].
- Set: Sets the value of the variable to the [Preset high level] following a *Visual VIGO* action.

- **Reset:** Sets the value of the variable to the [Preset low level] following a *Visual VIGO* action.
- **Toggle:** Toggles the value of the variable between [Preset high level] and [Preset low level]. i.e. Each time a *Two-state* component is activated, the value of the variable changes from the [Preset high level] to the [Preset low level] or vice versa.

Preset high level:

- Sets the predefined high level applied to the variable following a *Visual VIGO* action.

Preset low level:

- Sets the predefined low level applied to the variable following a *Visual VIGO* action.

Input

Following a change in a variable, the [Input] function sets the state of a *Visual VIGO* component in accordance with the input setting.

Function:

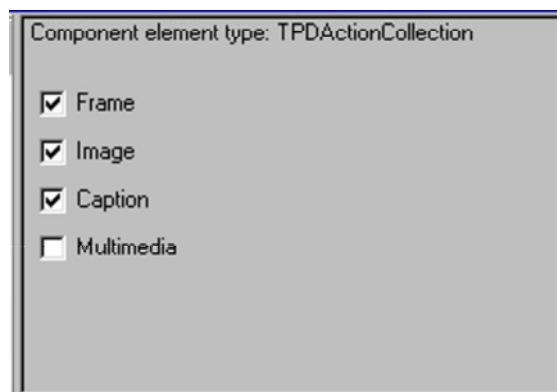
- **None:** No input action is defined.
- **Follow:** Sets the state of a *Visual VIGO* component in accordance with the current value of a variable. i.e. A *Two-state* component is activated when the selected variable rises above the [Trigger level] and deactivated when the variable drops below the [Trigger level].
- **Set:** Sets the state of a *Visual VIGO* component to True when the variable value rises above the [Trigger level].
- **Reset:** Sets the state of a *Visual VIGO* component to False when the variable value drops below the [Trigger level].

Trigger level:

- Sets the predefined level of the selected variable that causes an action within *Visual VIGO* to occur.

4.17 Action

This selection component element determines whether certain available properties are to be configured for this component, for any of the action states of On, Off and Error. Each item that is checked will enable additional element icons to be seen within the Component tree. The idea behind this facility is two-fold. Firstly, it ensures that the complexity of the tree view is reduced to a minimum if certain functions are not used. Secondly, by selecting only the property configuration features needed for a particular component, reduces the amount of operational memory required.



Frame

Checking this item will enable the Frame property-setting element for this action to be included within this component. See Frame (Page 41) element.

Image

Checking this item will enable the Image property-setting element for this action to be included within this component. See Image (Page 39) element.

Caption

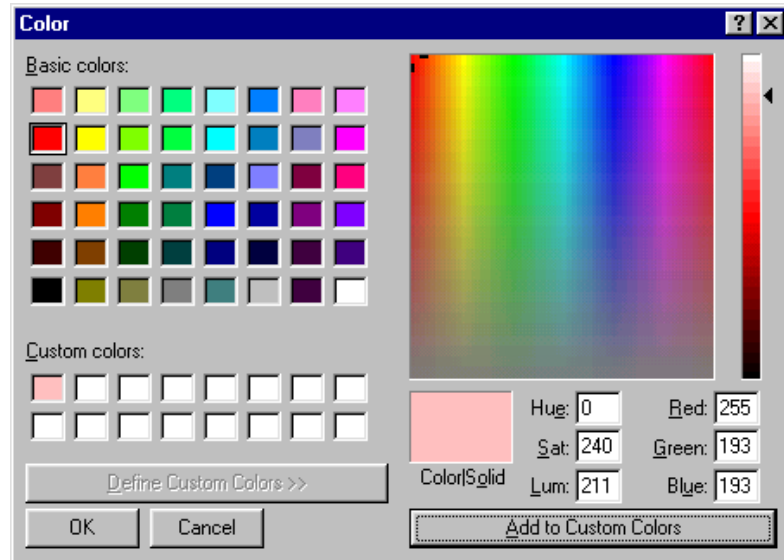
Checking this item will enable the Caption property-setting element for this action to be included within this component. See Text (Page 36) element.

Multimedia

Checking this item will enable the Multimedia property-setting element for this action to be included within this component. See also selecting a Multimedia (Page 45) file.

4.18 Colour

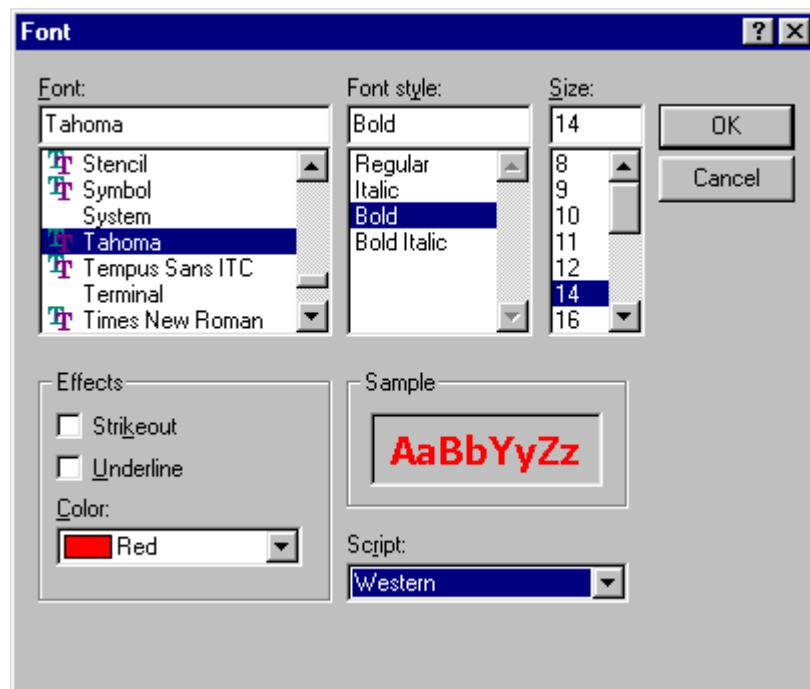
When it is required to define a colour for a background, line or pattern, the left half of this colour selector will appear. The current or chosen colour will be outlined with a black frame. Clicking on one of the displayed colours with the mouse and then clicking OK performs the choice of a new colour.



Additional shades can be defined by selecting the Define Custom Colours button. This will extend the selector to provide the means to define a very specific colour in terms of RGB mix, hue, saturation and luminosity. Such a colour can be saved as a custom colour for this and future use in the design. The designer should be aware that utilising such a facility will only have a noticeable effect when the display monitor is set to a high colour resolution.

4.19 Font

When it is required to choose a font type for a caption, label, scale, measurement etc., this selector will be presented. The font style, size and colour can be selected using the scroll bars and clicking upon a particular attribute with the mouse. A sample of what has been selected is shown in the Sample box. When satisfied, click the OK button to implement the change.



Designers should be aware that choosing a True Type (TT) font, will allow the text to be re-sized or zoomed without the definition of a character being affected.

4.20 Text and value Format

Text and value Format is a component element used to generate the format of Text or Numerical values on the screen.

The property of the component element is divided into two sections, a general section used to select the format type and a sub section with properties that varies with the type selected.

Type

[Free format] settings:

- No format conventions are forced upon the value or the text.

[Fixed format] settings:

- [Decimals]: This property sets the position of the decimal separator within the displayed numerical values, if the property is set to zero the decimal separator is not displayed. The maximum position of the decimal separator is 15 trying to exceed this threshold the position will automatically be reset to 15.

- [Leading zeros]: Leading zeros are normally suppressed unless this property is checked, the number of digits in front of the decimal point is constant. and the leading zeros option is checked, this will result in the following output "00005" if the value is 5.

[Hex format] settings:

- This selection will format and display a value as a hexadecimal value.

General settings for [Fixed format] and [Hex format]:

- [Width]: This property indicates the number characters included in the text. The maximum allowed number of characters is 15 and the minimum is 1. Exceeding these limits the number will automatically be adjusted up or down depending on what threshold is being violated.

- [Leading text]: Use this property to place a description in front of the numerical value.

- [Trailing text]: Use this property to place a unit after the value, typically an SI Unit.
- [Trailing text]: Use this property to place a unit after the value, typically an SI Unit.