Webviews Editor Guide: Foreseer 6.3

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WebViews Editor Reference Guide

Version 6.3

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Table of Contents

Preface

Manual Conventions

The following typographic conventions are used throughout this guide:

The names of items within the graphical user interface.	**Properties Dialog Box**
Filenames, file paths, folders, examples of scripts, XML files, computer output, or user input.	`/example/file.txt`
Hyperlinks	www.eaton.com
Variables and placeholders	`my_file`
Keyboard shortcuts are shown with the keys that must be typed simultaneously (chords) as keys separated by a plus sign.	Ctrl+Q or Alt+9

Introduction

WebViews pages are graphical representations of your site that allow you to monitor multiple locations and conditions simultaneously. A WebViews page could be a floor plan, a piece of equipment, an electrical schematic or a list of monitored points. It contains associations with icons and objects that change dynamically by displaying values, conditions, and colors to indicate different operational states. Navigating WebViews pages gives users the ability to expand their perspective from a single input to a system-wide outlook.

WebViews folders (and their attached pages) are created either through the Foreseer server application or the Web Configuration application. WebViews pages are edited and customized through the WebViews Editor. The WebViews Editor provides an extra dimension to Foreseer by letting you to create custom web pages your users can access to monitor your electrical system. These web pages can include:

1. Graphics depicting the position of various sites on a map.

2. Two-dimensional layouts of facilities.

3. Hyperlinks to connect various pages within your "web" or retrace your steps when "drilling down" through various pages.

4. Alarm and status indicators for specified Channels.

5. Gauges and digital displays that indicate values from specified Channels.

6. Animated images and images that change shape based on the status of specified Channels.

7. One-line diagrams where the lines and buses show the alarm state or status of specified Channels.

The WebViews Editor provides easy-to-use yet powerful tools to assemble these web pages. Custom graphic elements (JPEG, GIF, PNG, and Flash files) require specialized software to create; however, once created you can upload such files and use them throughout your site.

Examples

The following examples illustrate ways in which objects can be combined to create useful layouts. The first example is a fairly typical one-line diagram that can be created through the WebViews Editor. The key symbols throughout the diagram point out some of the objects used in its construction. Refer to the key explanations for a description of these objects and their capabilities.

Figure 1. One-Line Diagram
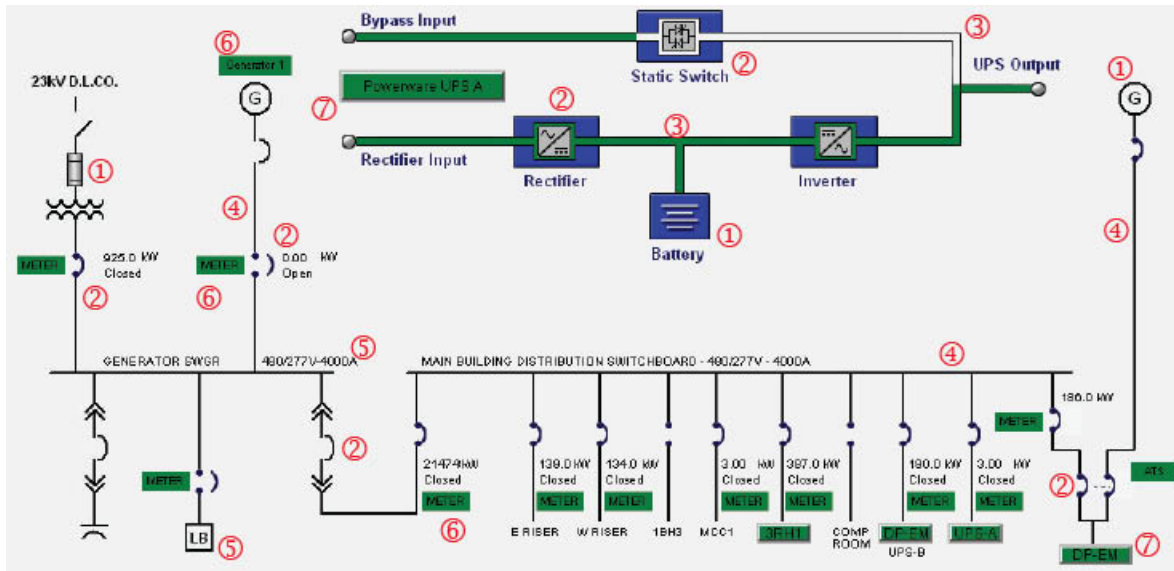
(1)   Static Image objects can be used for electrical or other symbols in the layout. These can be uploaded into an image palette. WebViews Editor ships with an extensive set of electrical symbols. This is covered in ???

(2)   Animated Image objects provide different images depending on the state of the connected Channels. For example, these can be relay symbols that show their contactors either opened or closed, depending on the state of the actual relay. They can also be more complex, such as the Rectifier and Static Switch, which have bus lines that change from green to transparent depending on the state of the bus. These are explained in more detail in the section called "Animated Elements (Ctrl+N) " [24].

(3)   Bus objects can show the state of the connected channels by color.

(4)   Line objects form vertical or horizontal connections within the one-line diagram.

(5)   Text objects can be used to overlay other objects (using the Z-order) or can be placed beside objects.

(6)   Square/Rectangle objects can show the state of connected channels and can have Text objects placed over them (using the Z-order).

(7)   Folder Link objects provide hyperlinks to related web pages, so that your users can drill down for additional information about devices.

The following one-line diagram uses both Value Mapped Image objects and Value Mapped Line objects. Value Mapped images can change which image is displayed based on the current value from the linked Channels. Value Mapped Line Objects can change color based on the current value of the linked Channels. Both layout objects support both a simple-to-use mapping table and an advanced mapping mode using custom Javascript code.

Figure 2. One-Line Diagram Using Value Mapped Objects
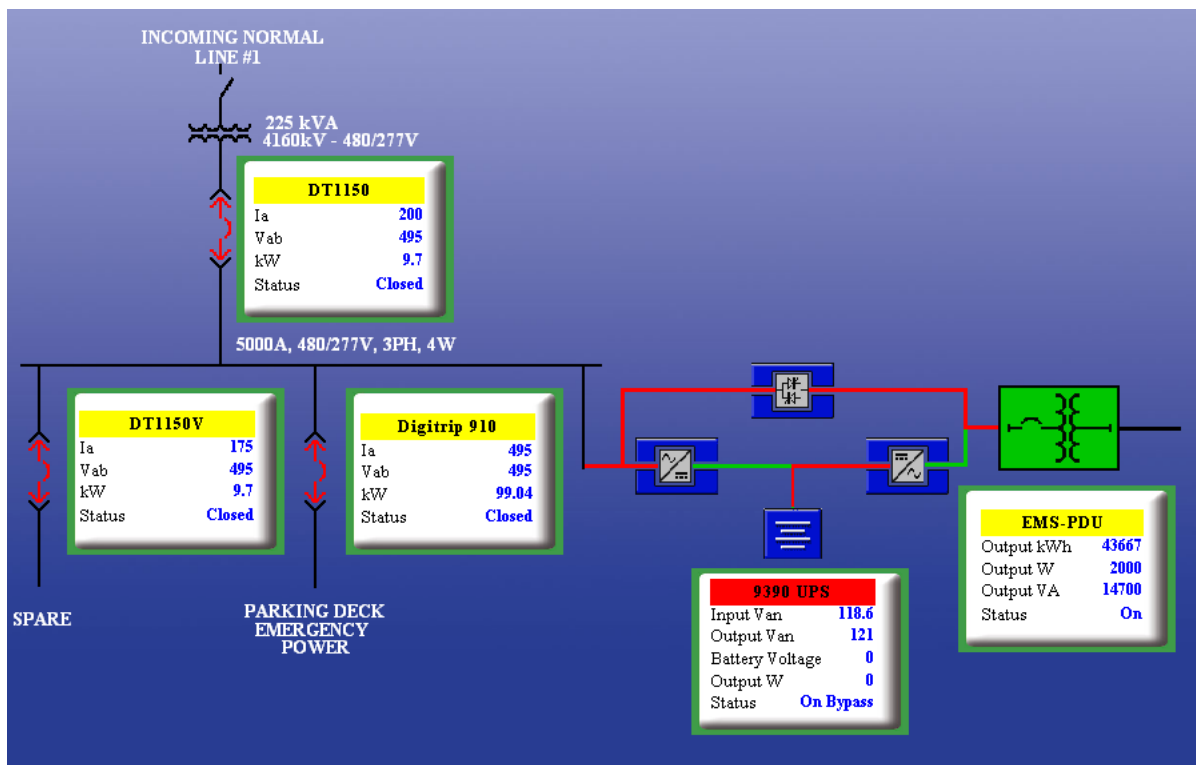
Data Pages: You can use the WebViews Editor to display information about multiple devices using a variety of indicator, gauge, and digital display objects. The following example shows a web page whose purpose is to provide a variety of information about the current values and states of a variety of Channels. The keys throughout the example point out some of the objects used in its construction. Refer to the key explanations for more information about these objects.

Figure 3. Device Page
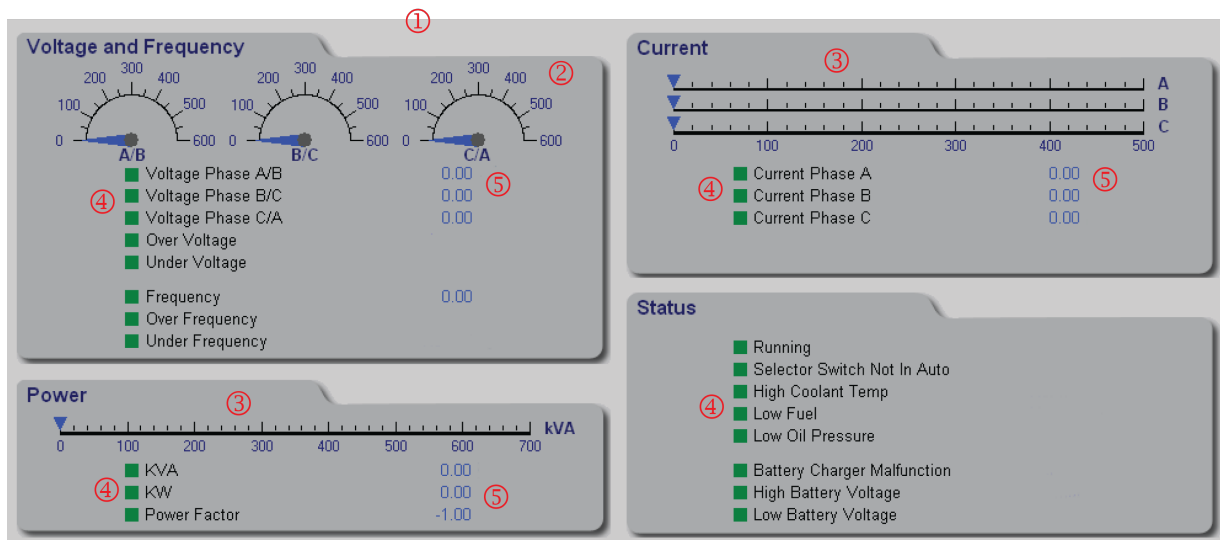
(1)   The Background Image object for this page provides "folders" that help to organize the groups of controls. You can accomplish the same sort of thing, though with plain rectangles, using Rectangle/Square objects.

(2)   Angular Gauge objects, like other gauge object types, provide a wide variety of options for size, style, and color.

(3)   Linear Gauge objects provide another way of displaying values. Again, a wide variety of configuration settings are available.

(4)   Square LED objects provide an indication of the state of a attribute. In this case, text objects provide legends for each LED object.

(5)   Channel Objects provide values from individual Channels.

Design Considerations

This chapter covers:

- An introduction to working with the WebViews Editor.

- How to plan your WebViews pages.

- Z-Index Layers, which can be used by all drawing objects (except the background layer)

Designing Pages

Creating WebViews pages in the WebViews Editor is similar to using a drawing or illustration program, with a few critical differences:

1. In some respects, what you can do is limited because you are interacting with a web browser while creating the page. For example, while you can draw single segment or multi-segment lines, these lines are constrained to right angles. However, the advantage to using the browser is that you don't need to install a special application on the client or server computer to create the WebViews pages, instead all you need is a browser.

2. Many of the drawing objects can be connected back to live data from the various devices on your network. These drawing objects can help users visualize what's going on in your electrical system by displaying values received from devices as a color, action, or by directly displaying a value. For example:

   - A line in a one-line diagram can change color to represent the current value of a monitored attribute.

   - An animation of a relay symbol will open and close when data is received indicating that the relay itself has opened or closed.

   - An analog gauge will indicate the current or voltage value from a monitored attribute.

   - A Channel object will change color to indicate that a critical or cautionary alarm exists.

3. You can also place navigational objects to link to other WebViews pages, which can provide links to other locations in the tree or give the user a "breadcrumb" trail for navigating back through the WebViews pages.

Getting Started

A good approach to creating your webviews pages is to begin by drafting them with pencil and paper. Consider which pages should be "children" of other pages and how pages should be linked. Such a diagram will tell you how to construct the folder structure to support your web design.

For individual pages, sketch out the areas for object placement including text descriptions to identify the various objects that will occupy each space. Once you have created the basic layout for a page, determine which objects should be grouped for easy editing (see Layer Groups and Z-Index Settings). You may want to group image objects together or place all the user interface objects in one Layer Group. Remember that you need not get the layout perfect for each page; changes inevitably will be made as the project progresses.

Because the WebViews Editor isn't a true drawing program, you can't use it to generate complicated graphic art. You're also restricted by browser display limitations. Therefore, objects created within the WebViews Editor are confined to straight lines and squares drawn along

the X- and Y-axes. Curves, diagonals, or rounded corners can only be introduced into the page design by first creating such images in a dedicated graphics program and then uploading those graphics (see ???).

Also, before starting to lay out your pages, determine what devices and Channels should be added to Foreseer to ensure that you have the correct data inputs available. Having these available for use will make the task of building the pages just that much easier. Keep in mind that you can reference Channels from child WebViews in the parent.

Finally, there is an automatic resizing function that occurs when you switch from editing a WebViews page. This can cause objects on the edges of very large pages to not display in Monitor view. To test this, simply examine your WebViews page after you save and exit from edit mode.

⚠Caution

Performance may degrade if more than three people are simultaneously using the Web-Views Editor.

Performance may degrade if you place a very large number of objects on a page, especially if the objects actively display data.

Templates

If you intend to create templates for use in WebViews, you should plan for future expansion by anticipating the greatest number of channels and objects that could be placed on any given page. Extraneous channels and objects can always be deleted from pages that are created using a WebViews template. By initially defining the maximum number of potential objects, you can accommodate potential changes and alter page design as necessary rather than revising the template later. It is important to remember that you will have to update every derivative page at the Web Server if you change a template. Thus, while the investment in initial design is somewhat greater, the result is easier creation of any future pages based on your template.

Default Layout File

A default web page is created whenever a new folder is added to the WebViews hierarchy. The index.htm file that is created normally loads the style sheets, script files and default HTML elements for the page. The page also receives a layout file (`layout.xml`) that defines the initial objects on the page. This is based on the `DefaultLayout.xml` file located in the `WWW/Support` folder. The default layout consists of a page header containing a Date and Time object, a Breadcrumbs object, and an Alarm Count object.

To override the default layout, you can create a new file (named `user_DefaultLayout.xml`) by editing any WebViews page until you are satisfied with the positioning of objects. Simply duplicate and rename the copy of the `layout.xml` file in that page's folder, then copy it to the `WWW/Support` folder.

The `index.htm` file is created from page begin and page end template files (`PageBegin.tmpl` and `PageEnd.tmpl`), also located in the `WWW/Support` folder. These template files similarly can be overridden by introducing new files named `user_PageBegin.tmpl` and `user_PageEnd.tmpl` to the `WWW/Support` folder.

Layer Groups and Z-Index Settings

The Z-Index function determines visibility for overlapping objects. The WebViews Editor supports 79 separate "drawing layers" (10 through 89) called Z-Indexes. All objects, by default, are initially created with a normal Z-Index of "50."

The normal setting should not normally be adjusted as in most cases design elements do not overlap. You should only have to map out the layering order of the affected objects in more complicated layouts. If the page layout requires objects to overlap, keep in mind that the higher the Z-Index, the "closer" the object appears to be (in the stack) to the viewer. For example, assume two Text objects overlap. Text A has a Z-Index of "40" and Text B has a Z-Index of "50." The Text B object will be visible above Text A in the shared area.

If two objects with the same Z-Index overlap, the most recently created object is visible in the shared area. When the creation order is an issue, use the Z-Index commands to change the layering. You can either increment the Z-Index of the object you want in front (Alt+Plus), or decrement the Z-Index of the object you want in back (Alt+Minus).

It's also important to determine the layers on which your page objects will reside. Because you may be adding many elements to a page (including some that potentially overlap), you'll want to establish an easy method to select these objects for editing. Layer groups allow you to turn editing capabilities on and off for all objects that exist in a defined layer.

An editing layer group limits which objects are eligible for selection based on their Z-Index value. When a layer group is active, all selection and editing commands affect only those objects within that group. The Ctrl+A command, for example, will only select objects with Z-Index values that fall within that particular layer group.

The WebViews Editor has eight predefined layer groups, each group consisting of ten Z-Index layers.

The following figure shows an example of the layout groups, each with their own objects. In this example, objects were placed on layers 1, 2, and 8.

Figure 4. Layout groups in use. Note how the background image is always below the other groups.
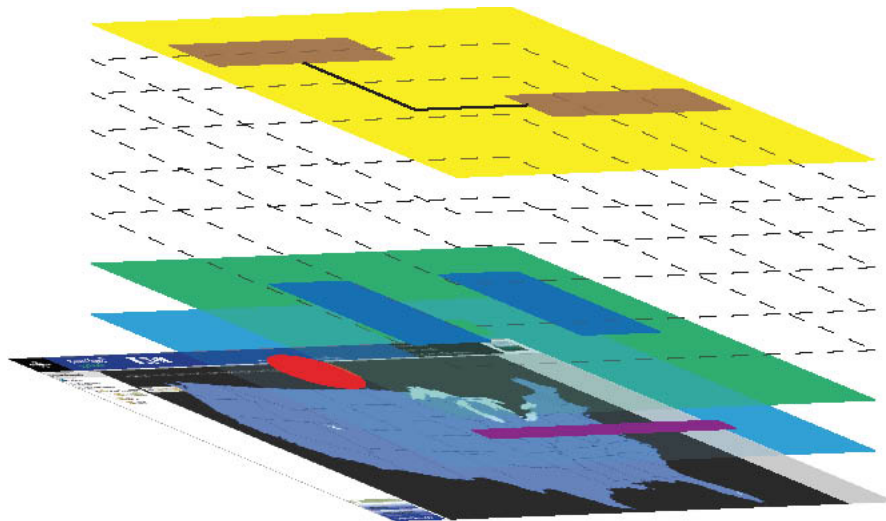
The following defines the ranges of Z-Index settings for objects within each layer group:

Layer 1	Z-Index "10-19"
Layer 2	Z-Index "20-29"
Layer 3	Z-Index "30-39"
Layer 4	Z-Index "40-49"

Layer 5	Z-Index "50-59"
Layer 6	Z-Index "60-69"
Layer 7	Z-Index "70-79"
Layer 8	Z-Index "80-89"

To take full advantage of this feature, you should first decide the layer levels to which your objects will belong. As noted, layering is based on each object's Z-Index value, or relative position. The higher the Z-Index number, the "closer" the object is to the viewer; the lower the Z-Index, the further it is from the viewer. Therefore, the Z-Index determines which object is visible when two or more objects overlap. For objects with the same Z-Index, the order in which they were created determines visibility, with the newest object being visible in the overlapping area.

Applying layer groups to similar objects minimizes editing and revision time. The ten Z-Index levels within each of the eight layer groups allow you to move objects forward and backward within that group. This can be extremely useful when you're creating complex interfaces with numerous overlapping objects. For example, you can place one object on Z-Index "10" and another on Z-Index "19" to distance them visually, yet you can change both objects when you're editing Layer 1.

Note

Although objects may be positioned inside a layer group, because they overlap they may still be difficult to edit. If you find this to be the case, isolate objects that are difficult to select on separate layer groups once the layout is complete.

To make the best use of layer groups, turn the layer editing function on as you bring elements into the page. For example, suppose you want the static images segregated for easy selection. You might place those objects while you're editing Layer 4 (Alt+4). This places the objects in the current Z-Index group at Layer "45" and allows you to edit them separately from other content.

Using Editing Layers

Keep the following in mind when working with editing layers:

1. A selected object's layer can be changed by double-clicking it and then typing the appropriate level in the Z-Index field.

2. When you create objects, ensure they are created within the appropriate level by first using the Alt+1–8 keys to switch to that level.

3. If you choose to import or create an object in a specific layer group, that object is placed in the middle layer of the group. For example, if you choose Layer 1 to be the active layer, the object you import into the group will be placed on Z-Index "15," Layer 2 on Z-Index "25," and so on.

Figure 5. The Properties dialog box, showing the object's Z-Index layer
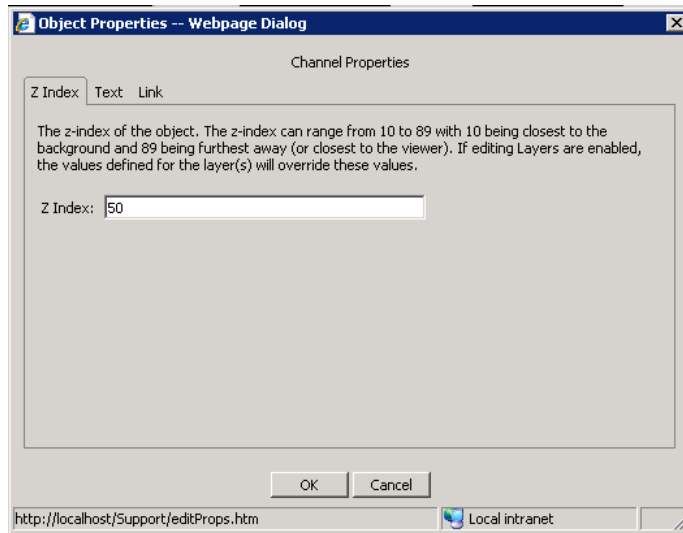
The following list identifies where new objects are placed in the Z-Index hierarchy if you place the object without first setting the editing layer (or if you press Alt+0). If you haven't set the editing then most objects are placed at the same level and you must manually change the Z-Index setting.

Channels	Layer "50"
Folder	Layer "50"
Line Object	Layer "50"
Animated Image	Layer "50"
Static Image	Layer "50"
Text Object	Layer "50"
Flash Object	Layer "89"
Hyperlink	Layer "89"
Control Object	Layer "89"

Once an object is placed, you can easily move it to a different layer. The Z-Index Front and Z-Index Back commands move the selected object(s) to the front or back of the active layer; the Z-Index Increment (Alt+Plus) and Z-Index Decrement (Alt+Minus) commands move the object(s) one layer at a time in each direction. These commands are found in the object's shortcut (right-click) Layout submenu.

To move a an object between layer groups:

1. Right-click the object and choose Switch Layer (or press F8).

2. Select the desired layer from the drop-down list in the dialog box.

Fine adjustments to the Z-Index can then be made using the Front/Back and Increment/Decrement commands.

Flash and Control Objects

Flash and Control objects are exceptions to the Z-Index level hierarchy. These two object types are always in front of other types of objects regardless of the level to which they are as-

signed. Thus, you will not be able to place other design objects at a higher level than these two object types. However, you can place like objects (other Control or Flash objects) on top of each other using the Z-Index commands.

Z-Index Commands

The following lists the Channel Z-Index commands. By default, all layers are alterable when the Channel is enabled (or when you press Alt+0); however, only the active layers can be altered by these editing commands.

Alt+1–8	selects the corresponding layer group. If the current layer is "0," then all objects (Z-Indexes "10" through "89") are selectable. Multiple layers can be selected at the same time but they must be contiguous. To select multiple layers, use the Ctrl+Alt+1–8 command to extend the current layer. The active layer group can be changed at any time by entering Alt+Layer (e.g., Alt+3 to enable editing on Layer 3 only).
Alt+Plus	increments the currently selected object's Z-Index value by one. If the object is at the end of a layer group ("x9"), it is moved into a new layer group. For example, assume a selected object has a Z-Index value of "19." Increasing that value will result in a Z-Index value of "20," moving it from the Layer 1 group to the Layer 2 group.
Alt+Minus	decrements the currently selected object's Z-Index value by one. If the object is at the beginning of a layer group ("x0"), it is moved into a new layer group. For example, assume a selected object has a Z-Index value of "30." Decreasing that value will result in a Z-Index value of "29," moving it from the Layer 3 group to the Layer 2 group.
Shift+1–8	hides all objects in the specified layer group. To show the objects, type Shift+Layer once again. You can hide as many layers as you like to simplify the editing process. Unlike selecting, layers do not have to be contiguous to hide them.
F8	allows selected objects to be moved to a different layer by choosing the group in the resulting drop list. When moving one or more objects to a new layer, the relative position will remain the same. In other words, if a selected object has a Z-Index of "46" and it is moved to Layer 2, it will have a new Z-Index of "26."
Alt+0	returns to editing all layers, not just the currently selected layer. In this mode all objects may be edited.

Working with Images

As mentioned earlier, the WebViews Editor can only create lines and rectangles. All other images must be in the form of graphics files that you either pull from the built-in library or create in a third-party graphics application and upload to the Data Aggregrator server. You'll also need to use graphics files if you wish to provide backgrounds for WebViews pages.

Image Objects in the WebViews Editor

The WebViews Editor supports the following types of image objects:

Background Image	These provide a background to the WebViews page, one per page. A background image can't be scaled, so when you create them be mindful of the target size of the page.
Static Images	These are simply graphics, and can be positioned and sized as you wish on a page. You can use these to represent electrical equipment or whatever you like. For example, if you are showing two buildings on a single web page then you could load both floor plans as images. While these are called static images, you can provide animation by using animated `.gif` files.
Animated Images	These aren't truly animations, but rather are sets of three images used to represent zero, non-zero, or no data values from a Channel. Thus, one designated image from the set will display when the value is zero, another will display when the value is non-zero, and a third will display when no data is available from the Channel.
Value Mapped Images	These are sets of up to 10 images, and each image can be mapped to multiple numeric or text values from the Channel. If you wish to map images within the set to ranges or values derived from the Channel, you can extend the mapping capability by writing custom Javascript. The Webviews Editor provides a scripting editor for this purpose.
Flash Images	These are true animations, and continue to loop as long as the page is displayed.

Background images, static images, animated images, and value-mapped images are all bitmapped graphics, and can be JPEG (`.jpg`), GIF or animated GIF (`.gif`), or PNG (`.png`) format. Note that the browser must have the Adobe Flash player installed to view Flash (`.swf`) objects.

There are some design considerations to keep in mind when creating graphics:

• Remember that the graphics are displayed via the Microsoft Internet Explorer browser. It's a good practice to load any graphics into Internet Explorer before uploading them to the server. Some programs, such as Adobe Photoshop, can create JPEG graphics that Internet Explorer can't display.

• Create graphics at exactly the size you'd like them to display. While you can resize the graphics in the WebViews Editor the clarity of the graphic is limited by the number of pixels and the resolution. Thus, if you have an icon for electrical equipment that's only 24 pixels x 24 pixels, it will look "blocky" if its size is greatly increased. Also, if the size of a graphic will be reasonably small on WebViews pages, don't create a high-resolution file with lots of pixels. This simply wastes storage space on the server and needlessly uses bandwidth when loading a page in the client browser.

- Consider the resolution of the client display when constructing background images. Background images will not automatically stretch and cannot be resized. Therefore, set your display to the same resolution as the client machine(s) when you build your background graphics so that you can judge how large they should be.

- Remember that Flash files and animated GIF files will continue to play (loop) while the page is active, so don't make them distracting.

Graphics Directories in Foreseer

If you're loading a large set of graphics and you have access to the Foreseer, you can copy the graphics files into the appropriate folders.

The default folder for images is in Windows XP and Windows Server 2003 is:

```
C:\Program Files\Eaton Corporation\Foreseer\WWW\Support\images
```

For Windows 7 and Windows Server 2008, the default folder for images is:

```
C:\Program Files (x86)\Eaton Corporation\Foreseer\WWW\Support\images
```

The folder is populated with subfolders which contain images in the different formats. It is important that image files be placed in the proper folder:

anime folder	contains "animation" files (either Animated Images or Value-Mapped Images).
flash folder	contains Adobe Flash .swf files.
page folder	contains default map and panel images used for user view page backgrounds.
static folder	contains web page image files. Use Ctrl+I to view these files.

If you do directly copy files to these directories, keep in mind that the image manager will only delete files that have the read-only Channel cleared. Conversely, if you want to prevent users from deleting files, set the read-only attribute.

Working with Channel Objects

One of the most useful WebViews Editor design objects is a Channel object. You must first create all of the Channels necessary for your Channel objects. In brief, a Channel object can display values from any device that's been added to the current WebViews page or any of its child pages. You can place a Channel object in your layout through either the shortcut key (C) or by using the right-click shortcut menu. Once Channel objects have been added to the layout, you can move them around the page and style them as desired.

In Monitor, Channel objects are color coded to help the user visually distinguish the status of each alarm/event. The color coding scheme is as follows:

Color	Alarm State
Red	Critical alarm state
Yellow	Cautionary alarm state
Blue	Acknowledged alarm state
Gray	Inactive alarm state or an event. This is the default color for Channel objects in edit mode.
Purple	Disabled
Light Blue	Disarmed
Green	Normal

Note

Before you can place objects on a page, the page must be in edit mode. You can activate edit mode by right-clicking on any empty spot (that is, not over an object) on a page, and then clicking **Edit** on the shortcut menu. You can tell that Foreseer is in edit mode by a series of asterisks in the browser's tab.

You can use the following shortcut keys to add Channel objects to your pages in Layout Manager:

C	Adds a single Channel object to the page at the cursor location. When the channel object is created, you'll see the **Channel Selection** dialog box to select a Channel. You may want to resize the Channel object to ensure that it is sufficiently large to properly display the longest potential Channel value. Selecting a Channel object and then pressing C will launch the **Channel Selection** dialog box.
F9	Creates a Channel object for each Channel currently in the chosen WebViews. *This does not create Channel objects for Channels in the child WebViews*. The Channel objects are created in columns starting at the upper left corner of the browser window. Channels are assigned a Z-Index of "50" (unless a layer group is active). *Caution: use this with care. Depending on the number of channels assigned to that WebViews page, this command can create more Channel objects than the page can contain (some channel objects spill over into the gray area). Should this occur, cancel edits and do not save.*
F2	Creates a Channel object for each of the following available in the chosen folders, subfolders, and folder links. The objects are created in a column starting in the upper left corner of the browser window.

You can also create a Channel object by right-clicking and selecting **Channel** in the **Objects** menu.

You can click a Channel object to give it focus and display its information in the browser status bar. This shows the complete Channel name as a full path to the Channel in the Power Xpert tree. If the status bar is not visible, choose **Status Bar** in the browser's **View** menu.

When setting the size and style for a set of Channel objects, you can first set this for one Channel object and then apply those settings to the set.

To format a set of Channel objects:

1. Add all the desired Channel objects to the page using the C, F9, or F2 command.

2. Select the new Channel objects and arrange them into meaningful groupings.

3. Select each group.

4. Choose a style (Alt+Y) for one of the Channel objects in the selected group (or use that command to create a new style).

5. Resize the Channel object to the size you wish to apply to the set of channels.

6. Select all the Channel objects that will use the same size and style, then (with the other object still selected) Ctrl+Click the original object to give it focus.

7. Press Y to apply the specified style to all the selected Channel objects.

8. Scale all of the selected Channel objects to match the Channel object with focus by pressing the S key.

9. Use the appropriate align command from the shortcut menu (see Figure 6, "Alignment Commands in the Shortcut Menu" [14]) to create even columns.

Figure 6. Alignment Commands in the Shortcut Menu

10. Press Esc to deselect all objects.

11. Select a group of Channel objects and position them by either dragging or using the move commands. The Arrow keys move 1 pixel at a time, Ctrl+Arrow moves the object(s) 10 pixels at a time.

12. Repeat the editing process for all Channel objects on the page.

13. Save the WebViews page layout (Ctrl+S).

You can also linked other objects to Channels, such as Control and Line objects, for enhanced alarm state reporting.

To link an object to a Channel:

1. Click to select the design object that you wish to link to a Channel. You may select as many objects as you like to link to the Channel input.

2. Press Ctrl+Spacebar.

3. Click the appropriate Channel in the list that appears. Note that Channels from child pages (shown as subfolders in the list) are also available.

Figure 7. Selection List Box
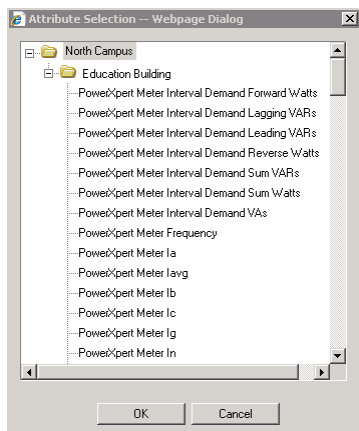
4. Click **OK**.

Note

When you link a Channel Object to a Channel using this procedure, it will take the name of the Channel as its default label. If you then link it to a different a Channel, the label won't change. To change the label, double-click the Channel object and then select the **Text** tab.

You can verify a link by clicking on the Channel object and looking at the path in the browser status bar at the bottom of the page. To view existing links, select object and press the K key. Its linked objects (such as Check Box objects) are also highlighted.

Note

Channel objects display the device and device server in their labels, as is shown in the following figure. However, you can change the label using the **Properties** dialog box.

Figure 8. Channel Object Labels

To determine which available objects are not properly linked to the appropriate Channels, press the U key. Unlinked and mislinked objects are highlighted. An unlinked object is an available object that has not been linked; a mislinked object is one that is linked to an invalid Channel. The latter situation can occur because the associated Channel has been deleted from the WebViews page (or one of its child pages) or because the device or WebViews Channel has been deleted from Foreseer.

Check Box Objects

Check Box objects are used in conjunction with Graphs. When you click the Graph link, it launches the Graphing window and graphs only the Channels from Channel objects with selected Check Box objects.

Figure 9. Typical Arrangement of Channel Objects with Check Boxes
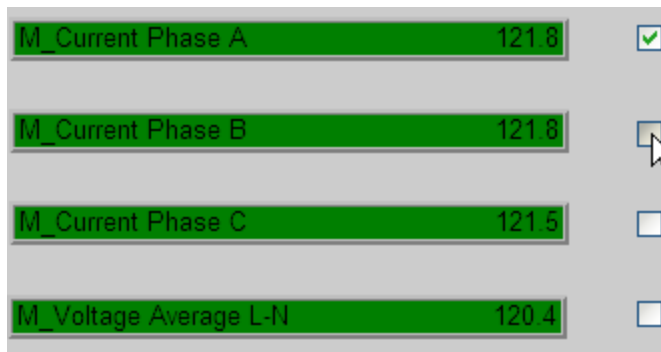
To create Check Boxes for Channel objects:

1.   In edit mode, select all Channel objects that should have check boxes.

2.   Press Alt+X. Linked Check Box objects are created to the right of each Channel object.

Trend Viewer Objects

Once you have created Channel Objects with linked Check Box objects (see the section called "Check Box Objects" [16]), you can select Channels to graph by simply selecting each appropriate Check Box object and then clicking a Trend Viewer object.

To create a Trend Viewer object:

1.   In edit mode, right-click on the WebViews page and select **Trend Viewer** from the **Objects** menu.

2.   Drag the Trend Viewer object to its position on the WebViews page.

Navigational Objects

Navigational objects provide quick access to other WebViews pages. You can use the following navigational objects:

Folders	These objects link directly to subfolders; that is, child folders of the current folder.
Folder Links	These objects provide a direct link to any folder in the System hierarchy, including device folders. It is not limited to connecting to folders under **WebViews**.

Note

Before you can place objects on a page, the page must be in edit mode. You can activate edit mode by right-clicking on any empty spot (that is, not over an element or other object) on a page, and then clicking Edit on the shortcut menu. When Foreseer is in edit mode, you'll see the **WebViews Editor Editing** message over the Foreseer menu.

Folder Object (F)

Folder objects provide links to navigate from one WebViews page to the web page for an existing child folder. Folder Objects also reflect the device status for any devices contained in the target folder branch (including sub-folders). See the section called "Bubble Up " [18] for more information. The following commands allow links to be created to the subfolder elements in the WebViews hierarchy:

In the WebViews Editor, when editing a page, you can use the following commands to create folders.

Keyboard	Objects shortcut menu	Function
F	Folder	creates a folder object on the page. If a folder is the focused object, repeatedly pressing F cycles through the available folders. You may want to resize the folder object to ensure that it is large enough to display the longest folder name.
F10	All Folders	creates folder objects for all first-level subfolders (children) of the current folder. The folder objects appear in a column in the upper left corner of the browser page.

By default, a Folder Object is labelled with the name of the subfolder; however, you can change this in its Properties dialog box (double-click the Folder Object).

Folder Link Object

Unlike Folder objects, the target of a Folder Link object can be any folder in the tree. Folder Link objects also indicate the device status of all devices in the target folder's branch. See the section called "Bubble Up " [18] for more information. You can use the following keyboard and menu commands to create Folder Link objects.

Keyboard	Objects shortcut menu	Function
	Folder Link	creates a Folder Link object on the page.

Keyboard	Objects shortcut menu	Function
Alt+F10	All Folder Links	creates a Folder Link for each Folder Link that has been defined for the folder. The new Folder Link objects appear in a column in the upper left corner of the browser page.

To create a Folder Link object:

1. Right-click and choose Folder Link from the Objects menu.

2. In the Folder Link Selection dialog box, navigate through the tree and select the folder that will be the target of the link.

Figure 10. Selecting the target of a Folder Link Object
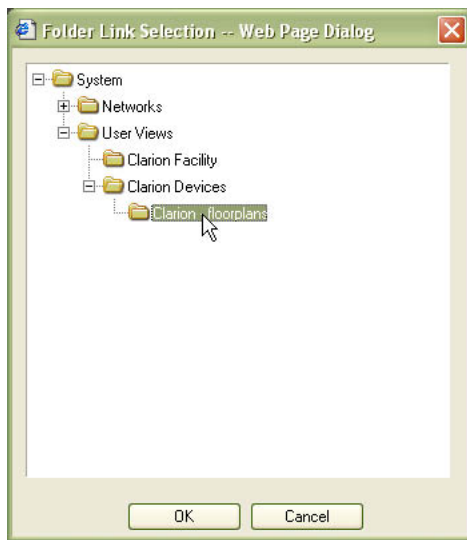
3. Click **OK**.

Bubble Up

The Alarms/Events Log provides a view of Channel alarms or events. You may however wish to provide an at-a-glance view of the status of devices. To help you with this, both Folder and Folder Link objects provide a way to "bubble up" device status through the network tree. Formula Channels also have their own bubble-up status, which is derived from all of the Channels that they reference. Unlike device status, formula Channel status does not bubble through the tree.

Device or Channel status is indicated by color:

Red	Critical alarm.
Yellow	Cautionary alarm.
Gray	No communication or no data.
Light Blue	Disarmed
Purple	Disabled
Blue	Acknowledged

Green	Normal

The device status that bubbles up is the highest priority status of the various devices. The following lists the priorities of device status:

1. Critical alarm, which always bubbles up.

2. Cautionary alarm, which bubbles up if there are no devices with a higher priority status.

3. Critical acknowledged alarm, which bubbles up if there are no devices with higher priority status.

4. Cautionary acknowledged alarm, which bubbles up if there are no devices with higher priority status.

5. No data, which bubbles up if there are no devices with higher priority status.

6. Disabled, which only affects the containing nodes. Both devices and channels can be disabled. Disabled will only bubble up to the direct parent node. It will not bubble up beyond the direct parent device.

7. Disarmed, which has the lowest priority, and only affects the direct parent device containing the disarmed channels. It will not bubble up beyond the direct parent device.

8. Normal status.

Note

Only channels can be disarmed in Foreseer.

Also, as a designer, keep in mind that the targets of a Folder link can be:

• Another WebViews page. In this instance the Folder Link serves both as a navigational tool (click it and the browser jumps to the target WebViews page) and as a visual indicator of the status of the target WebViews page. A WebViews page status is derived from the status of all of the devices in the **Devices** list for that page as well as the status of any subviews.

• A device summary page. In this instance the Folder Link provides a visual indication of the status of the target device and a quick link to that device summary page for more information.

• An arbitrary node in the System tree. For instance, if the target of the Folder Link was the System node itself, the status reflected in the Folder Link would be the status that bubbled up from all nodes in the tree. If the target were the Foreseer node, the status would be derived from all devices attached to that node.

Status of Devices and Channels

Devices and channels in the network tree manage their own alarms and status and the status of their "children" are not involved in determining this. Their status is determined by the following sets of priorities:

1. Disabled has the highest priority.

2. Next is no data.

3. Next is disarmed. (If the device is disarmed, its alarm state is ignored.)

4. Next is unacknowledged critical alarm.

5. Next is unacknowledged cautionary alarm.

6. Next is acknowledged critical alarm.

7. Next is acknowledged cautionary alarm.

8. Last is normal.

Bubble-Up Examples

The following sections attempt to pull all of the information about bubble up together in some examples. They show how device status is derived and how it bubbles up for each major section of the tree.

Foreseer Nodes

The following shows examples of how status bubbles up through the devices connected to Foreseer. In the example, the Foreseer entry is the Foreseer node in the System tree.

Foreseer			
	local		This is red because of a red child device.
		device 1	This device is red because of a red attribute.
		device communications	
		Channel 1.1	
		Channel 1.2	
		Channel 1.3	
		device 2	This device is gray as long as there is a gray attribute
		device communications	
		Channel 2.1	Only Foreseer monitors every channel constantly
		Channel 2.2	
		device 3	This device is gray as long as there is a gray attribute
		device communications	
		Channel 3.1	
		Channel 3.2	
		device 4	This device is red because of a red attribute.
		device communications	
		Channel 4.1	
		Channel 4.2	

Breadcrumbs Objects

The Breadcrumbs object creates a hyperlinked text string that represents the navigational path to the current page. Breadcrumbs allow any of the previous pages to be accessed with a single mouse click. By default, breadcrumbs are displayed as the URL path to the current folder. You can enter breadcrumbs text for each WebViews folder in its respective Properties dialog box. There may only be one Breadcrumbs object per page and its attributes can be cus-

tomized in the CSS file. Since the default page contains a Breadcrumbs object, you must alter the default page in order to place these yourself.

Design Objects

Design Objects provide information about Channels or are simply graphical elements that enhance a page. They include:

- *Static Images:* Simple graphic files or animated `.gif` files that can be positioned and sized.

- *Animated Images*: A set of three images that depict the value of a linked Channel.

  Value Mapped Images: A set of up to 10 images that can depict various values from a linked Channel.

- *Bus (Line), Line, and Square/Rectangle*: Drawing elements that can be linked to a Channel and depict a digital (zero and non-zero) value by color. When not linked, they serve as simple graphics objects that you can color, position, and size as you wish.

- *Value-Mapped Bus (line)*: Line elements that can depict various values from a linked Channel by color.

- *Background Image*: An image that forms the backdrop for a WebViews page.

- *Date & Time*: An object that simply displays the current date and time in a format of your choosing.

- *Text Object*: Text, that can have a style of your choosing.

- *Flash Object*: A full-motion animation file.

- *Control Object*: An object that depicts the current value from a linked Channel as a gauge, binary (LED indicator), or digital value.

Working with One Line Diagram Objects

As a convenience, we've combined five objects that you'll commonly use when creating one-line electrical diagrams, the Static Image, Animated Image, Bus (Line), Value Mapped Bus (Line), and the Value Mapped Image objects, into one submenu in the Edit shortcut menu. You can use these objects to create the lines and graphic symbols in your one-line diagrams.

The Bus (Line) object shares the same properties and capabilities with the Line and Square/Rectangle objects, and you can use these to draw lines of varying colors and widths. Bus (Line) objects, like Line and Square/Rectangle objects, can also be connected to Channels, and if connected will take their colors from the Channel values.

- The standard Bus (Line) object, when connected to a Channel, is limited to two colors: green (0) or red (not equal to 0).

- The Animated Image object has three separate static images that display depending on the value of the Channel (either 0, non-zero, or no value) that you've connected.

- The Value Mapped Bus (Line) object maps various text and numeric values from the linked Channel to one or more colors. Through custom Javascript that you create, this functionality can be extended to map colors to ranges of values or use other display Channels.

- The Value Mapped Image object maps various text and numeric values from the linked Channel to up to 10 separate images. Value Mapped Image objects can also have custom Javascript, allowing you to map individual images to ranges of values.

Static Images (Ctrl+I)

Static Image objects are created using third-party graphics software. They should be scaled and styled in the source program before being added to the page. Images must be saved in a `.jpg`, `.png` or `.gif` format. Static images can include animated `.gif` files.

Figure 11. Static Icon

Animated Elements (Ctrl+N)

This design object is not actually animated; rather, it is a set of three images linked to a Channel that change as the Channel value changes. The designer uses orientation, as well as different images based on the analog or digital Channel's data Channels, to provide a visual indication of the value of the linked Channel.

Animated images are created using third-party graphics editing software. They should be scaled and styled in the source program before being added to the page. The files used to represent the Channel's value must be saved in a `.jpg`, `.png` or `.gif` format.

Each animated image may have up to ten orientations in four directions—Top (0), Right (1), Bottom (2), Left (3)—and three states—Open (0), Closed (1), No Data (N). These image characteristics are determined by its filename. A strict naming convention must be observed for animated image files to function properly:

ImageNameO_S.ext

where:

ImageName	is a unique file identification
O	is the orientation (0–9) of the image
S	is the data state (0, 1 or N)
ext	is the graphic file extension.

Thus, each animated image will have at least three files associated with it:

*ImageName*0_0.jpg
*ImageName*0_1.jpg
*ImageName*0_N.jpg

To place an animated image:

1. In edit mode, right-click and select **Animated Element...** from the **Insert One Line Element** menu. When Foreseer is in edit mode, you'll see the **WebViews Editor Editing** message over the Foreseer menu.

2. In the dialog box that appears, select an image set from the image palette on the left of the dialog box. All images associated with that set display on the right side of the dialog box.

You can select a keyword in the **Filter by keyword** list to reduce the number of images shown in the palette to only those images associated with the selected keyword. The Web-Views Editor will remember your last selection (for 14 days) and default to that.

1. Click the **OK** button.

Note

You can access the help by clicking the help icon in the upper right.

Figure 12. Selecting an animated image set.
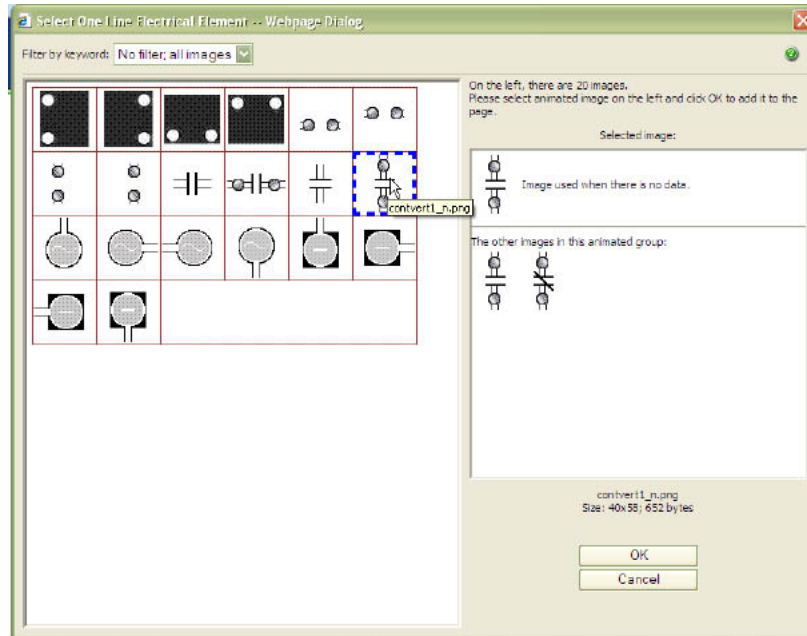
Value Mapped Images (Ctrl+Alt+N)

This is a variation on the Animated Image that has the following features:

- Each image set can have up to 10 images (0 through 9).

- Each object can have its own individual color mapping.

- A single color can have multiple associated values. For example, yellow might indicate a value of 4 or 5. However, this must be an exact match, and will not indicate a value between 4 and 5.

- Mapped values can be integer numbers, floating point numbers, or text values (strings).

- Text values are not case sensitive.

- Each text value must be enclosed in single or double quotes.

- You can extend the mapping capability with custom Javascript code (see *Javascript Scripting* [87]).

You can create the images using third-party graphics editing software. The files in the image set must all share a common format and must be either `.jpg`, `.png` or `.gif` images. Images are identified as part of a Value Mapped Image set by following a strict file naming convention:

`NameNumber.ext`

Where:

`Name`	is the first part of the filename, and must be shared by all files in the set.
`Number`	is a single-digit numeric value of 0 through 9 or the letter N, and must immediately precede the file extension. An N indicates that this image is automatically associated with a no-data condition.

For example, the files `big_breaker0.png`, `big_breaker1.png`, and `big_breaker3.png` would all be part of the same mapped image set. For more information on uploading value mapped images, see ???.

To place a Value Mapped Image object on a page:

1. In edit mode, right-click and select **Value Mapped Image** from the **Insert One Line Element** menu. When Foreseer is in edit mode, you'll see the **WebViews Editor Editing** message over the Foreseer menu.

2. In the dialog box that appears, select a Value Mapped image set from the image palette on the left of the dialog box. All images associated with that set display on the right side of the dialog box.

    You can select a keyword in the **Filter by keyword** list to reduce the number of images shown in the palette to only those images associated with the selected keyword. The WebViews Editor will remember your last selection (for 14 days) and default to that.

<div align="center">

Note

</div>

You can access the related section of the manual directly from the dialog box by clicking the help icon in the upper right.

Figure 13. Selecting a Value Mapped Image
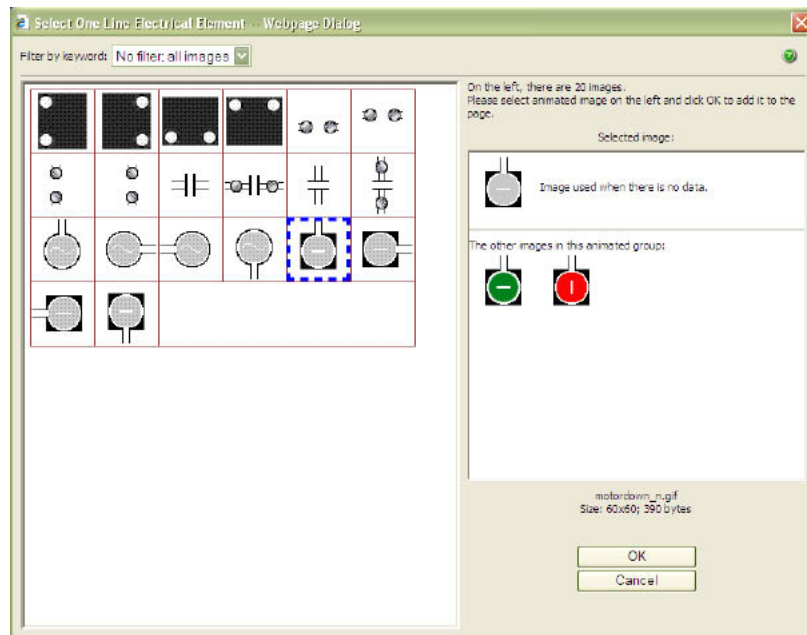
3. Click the **OK** button.

To set the value mappings:

1. Double-click the Value Mapped Image element.

2. In the **Image Properties** dialog box, click the **Mapping** button.

3. In the **Value Mapping** dialog box, ensure that the **Normal** radio button is selected.

   Note that the dialog box contains a row for each image in the set. You can assign as many values to each row as you wish.

4. Type the values you want to map to that image in the values field, separated by commas.

5. Click the **OK** button when you've added all of the value mappings.

Bus (Line) Objects (Ctrl+L)

Bus (Line) objects are normally meant as drawing objects in one-line diagrams, and can also provide a color-coded indication of a Channel's current value. These objects are essentially the same as the Line, and Square/Rectangle objects. You can stretch these objects, increase their width, assign a value-to-color mapping (for objects that are linked to Channels), or simply assign a color (for unlinked objects). You can also "flip" them 90°, toggling between vertical and horizontal lines. You can't rotate them except in 90° increments.

Once linked to a Channel, the color of the object is derived from the Channel value (green for 0 and red for non-zero). This color mapping scheme is different from Value Mapped Bus (Line) objects in the following ways:

- This mapping scheme was designed for use with digital (zero or non-zero) values from the linked Channel.

- The color mapping for values is global, and is therefore not specific to the object. If you change the color mapping, via the **One Line Colors** menu item, you'll change the mapping for all linked Bus (Line), Line, and Rectangle objects.

- If you've previously specified a color for an object, linking it to a Channel overrides your color selection and color mapping now applies.

Note

For one-line diagrams, you may find that the default line width is different than the connection lines on symbols and other clipart that you may use. To save you the effort of resizing each line to match your symbols, you can specify the default thickness of the line (in pixels). For more information, see the section called "Changing the Default Thickness of Line (Bus) Objects" [93].

If you wish to map a series of values to various colors, see the Value-Mapped Bus (Line) object.

To resize a Bus, Line, or Square/Rectangle object:

1. Click the object (selection handles appear).

2. Drag the object's selection handles to the required length of thickness. For more precision, use the Alt+Arrow keys to change the line in one pixel increments or the Ctrl+Alt +Arrow keys to change the line in 10 pixel increments.

To toggle a Bus, Line, or Square/Rectangle object between horizontal and vertical:

1. Click the object to select it.

2. Press Ctrl+L or Ctrl+Q to toggle between horizontal and vertical orientation.

Note

If a Bus, Line, or Square/Rectangle object currently has focus (selection handles are visible), you can't create a new Bus, Line, or Square/Rectangle object. You'll need to click onto the an open part of the current page first to de-select the object, and then create a new object.

The following procedure only applies to objects that are not linked to a Channel.

To change the object color and opacity:

1. Double-click the object to display its Properties dialog box.

2. Click **Color Picker**.

3. Colors can be set through the **Color Picker** in a one of four ways, each of which has its own tab. You can select from a general color palette, a palette of named colors (these are the color names you'd use in HTML and CSS), colors set through the Windows Appearance settings (this will change based on the client computer's settings), and RGB values.

   Opacity, or transparency, is set by setting a value between 0 (completely transparent) and 1 (completely opaque). Transparent objects allow objects with lower Z-order index numbers to "show through." The greater the transparency, the more clearly the objects "behind" can show through.

4. Click **OK**.

5. Press Esc to exit from the **Properties** dialog box.

Multiline Object

The Multiline Object provides a handy way to draw multiple line segments in which each new segment automatically starts at the end point of the previously drawn segment. Segments are constrained to 90° (right angles).

To draw a multi-segment line:

1. Select **Multi-Line** from the **Objects** menu or press the "m" key.

2. Click at the start point for the first line segment.

3. Click at the end point for the first line segment (the next line segment will use this as its start point).

4. Click at the end point for the next line segment. Remember that the line is constrained to right angles so the next segment may not end where you clicked.

Figure 14. Picking the next line segment end point.

5. Double-click to designate the last end point and stop line segment drawing.

Figure 15. Ending a line segment
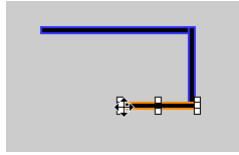
When you double-click, all line segments are selected and the last segment drawn has focus. To reposition the entire group, drag the segment with focus (it has the handles). After you click away from the group of lines, you can select each segment individually or select the group by dragging a selection box.

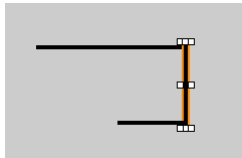**Figure 16. Selecting an individual line segment**

Value-Mapped Bus (Line) (Ctl-Alt-L)

A Mapped Bus (line) object is similar to the Bus (Line), but can be set to indicate multiple values, by colors that you assign, from a selected Channel. You can select either Normal mapping or Advanced mapping modes. In Normal mode, you simply assign one or more values to a color and then repeat this sequence to add as many colors as you need. In Advanced mode, covered in *Javascript Scripting* [87], you assign colors through Javascript code snippets that you create. Using Advanced mode you can map colors to ranges of values or even flash the image in response to values.

The rules for Normal mappings are:

- Each object can have its own individual color mapping.

- You can add as many mappings per object as you like.

- A single color can have multiple associated values. For example, yellow might indicate a value of 4 or 5. However, this must be an exact match, and will not indicate a value between 4 and 5. You'll need to use Advanced mapping to map to a range of values.

- Mapped values can be integer numbers, floating point numbers, or text values (strings).

- Text values are not case sensitive

- Each text value must be enclosed in single or double quotes.

**To place a Mapped Bus (Line) element:**

- Right-click and **Select Mapped Bus (Line)** from the **Insert One Line Element** submenu.

To set the value mapping:

1. Double-click the Bus (Line) element.

2. In the **Line Properties** dialog box, click the **Mapping** button.

3. In the **Value Mapping** dialog box, ensure that the **Normal** radio button is selected.

4. Click the **Add a Value Mapping** button.

5. Select a color from the **Color Picker**.

6. Type the values you want to map to that color in the values field, separated by commas. You can continue adding mapping rows via the **Add a Value Mapping** button.

7. Click the **OK** button when you've added all of the color mappings.

Figure 17. Typical mappings of colors to values
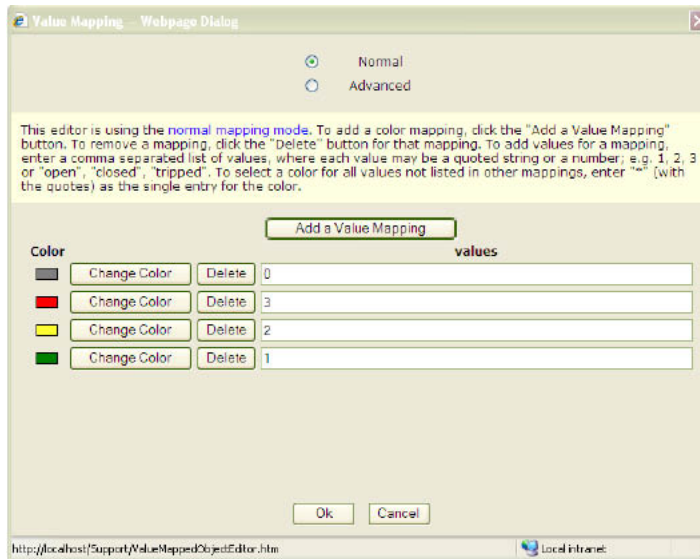
Deleting a Mapping: You can delete any mapping row in the dialog box by simply clicking the Delete button on that row.

Manipulating Value-Mapped Bus Objects: You can resize or flip Value-Mapped bus objects in your layout.

To resize a Value-Mapped Bus object:

1. Click the object (selection handles appear).

2. Drag the object's selection handles to the required length of thickness.

To toggle a Value-Mapped Bus object between horizontal and vertical:

1. Click the object to select it.

2. Press Ctrl+L or Ctrl+Q to toggle between horizontal and vertical orientation.

Note

If a Value-Mapped Bus (Line) object currently has focus (selection handles are visible), you can't create a new object. You'll need to click onto the an open part of the current page first to de-select the object, and then create a new object.

Design Objects

Design objects aid in navigation or lend visual interest to WebViews pages. Typical design elements include the Background Image, Date&Time, Breadcrumb, and Text Objects. Refer to page *Working with Channel Objects* [13] for a discussion of Channel objects.

Background Images (Ctrl+P)

Selecting this object inserts a background on the page. A background could be a drawing or a photograph over which other design objects can be layered.

To place a Background Image object on a page:

1. In edit mode, right-click and select **Background Image...** from the **Objects** menu.

2. In the dialog box that appears, select a Background Image from the image palette on the left of the dialog box. The image will preview on the right side of the dialog box.

You can select a keyword in the **Filter by keyword** list to reduce the number of images shown in the palette to only those images associated with the selected keyword. The Web-Views Editor will remember your last selection (for 14 days) and default to that.

Note

You can access the related section of the manual directly from the dialog box by clicking the help icon in the upper right.

To remove a background image from a page, select the **Remove Background** command in the **Objects** submenu.

Note

Background Images do not stretch or tile. They are a fixed size.

Figure 18. The Select Background Image - Web Page dialog box.
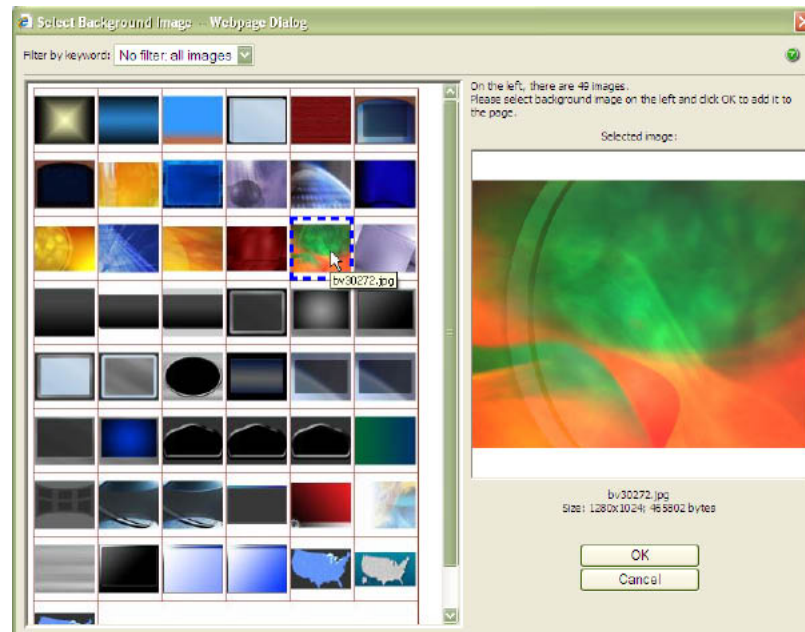
Date & Time

This display object continuously updates the date and time at one-second intervals. There may only be one Date/Time object per page. The default date and time are derived

from the local computer, although they can be obtained from the Web Server, if desired.

Thursday 30. Aug 2007 | 12:49:24

Date & Time object Channels can be customized in the CSS file (see the section called "CSS Files" [92]) Refer to style rule `#TimeFromServer` in the style sheet. You can also specify a string to be appended to the date and time such as a time zone using the `#TimeZone` style rule.

Text Object

A Text object is exactly what the name implies, and can be used to label a variety of other objects.

To edit a Text object:

1. Double-click the Text object.

2. Click the **Text** field, enter the desired display text and press Enter to retain it.

3. To turn the text vertical, select the object, right-click, then choose **Flip Text Horiz/Vert** in the short-cut menu.

Advanced Design Elements

Advanced design elements—Static Images, Animated Images, Control Objects, Flash Objects, Line Objects, Rectangle objects—provide graphical building blocks for a WebViews page. These objects are the drawing shapes and "readout" objects you'll use to build web pages.

Static Image (Ctrl+I)

Static Images provide a graphic image that you can place anywhere on a WebViews page. These are essentially the same as the Static Element in the Insert One Line Element menu. For more information about using creating and uploading images, see ???.

Animated Image (Ctrl+N)

Animated Image objects are not actually animated; rather, each is a set of images linked to a Channel. The images within the set are mapped, by a file naming convention, to zero, nonzero, and no data values from the attribute. These objects are essentially the same as the **Animated Element** in the **Insert One Line Element** menu.

Line Objects (Ctrl+L), and Square/Rectangle Objects (Ctrl+Q)

Line and Square/Rectangle objects are normally meant as drawing and connector objects diagrams, but can also provide a color-coded indication of a Channel's current value (either zero or nonzero). You can stretch these objects, increase their width, or simply assign a color (for objects not linked to Channels). You can also "flip" them 90°, toggling between vertical and horizontal orientation. You can't rotate them except in 90° increments.

These objects are essentially the same as the Bus (Line) objects in the Insert One Line Element submenu.

Flash Objects (Alt+W)

Flash animation objects provide true, full-motion animation instead of a simple static image. These files are created in, and exported from, Adobe's Flash application. A Flash file must be

saved in a .swf format . Like control objects, flash objects are always imported at the highest Z-Index level. Flash objects can be resized like any other object using the component handles.

Note

Flash objects continuously loop; that is, they play continuously. Therefore, be careful that Flash objects you place in your WebViews pages are not annoying or overly distracting.

Control Objects (Alt+Z)

These third-party supplied controls allow you to build functional graphic representations of Channel data. Controls are ActiveX objects and, as such, behave differently than other design elements in terms of selection and editing. Control objects are always inserted at the highest Z-Index level on the page (see the section called "Layer Groups and Z-Index Settings" [6] for more information on Z-Index) and each has a unique **Properties** dialog box specifying its various display characteristics (see *Control Object Reference* [43]).

A control object must be linked to an Channel in order to respond dynamically on the Web-Views page.

To link a control object to a Channel:

1. Click the control object to give it focus (or place the cursor over it and press the Space-bar).

2. Press Ctrl+C to select one of the available Channels.

The following controls provide a linear representation of a single value from a selected Channel.

- Angular Gauge.

- Linear Gauge

- Sliding Scale

- Thermometer Gauge

The following control provides a digital representation of a single value from a selected Channel:

- Odometer

The following control objects provide an indication of the alarm state of a selected Channel:

- LED Rectangle (Alarm State)

- LED Arrow (Alarm State)

- LED Round (Alarm State)

- LED Diamond (Alarm State)

The following control objects provide an indication of the value from a single selected Channel.

- LED Rectangle (Value)

- LED Arrow (Value)

- LED Round (Value)

• LED Diamond (Value)

• Motor

The following control objects provide a binary switch with mouse-click control:

• Switch LED (LED provides color indication of on-and-off state)

• Switch Rocker

When you create a control object, you'll see a set of initial options in the creation dialog box. Each of these is fully explained in the dialog box itself.

To create a Control Object:

1. Right-click in a blank area.

2. Select **Controls**.

3. In the **Select Object** dialog, click the object you wish to insert.

4. Select the verious options for that object in the list boxes that appear. Options are explained in detail in *Control Object Reference* [43]

Figure 19. Select Object Dialog Box
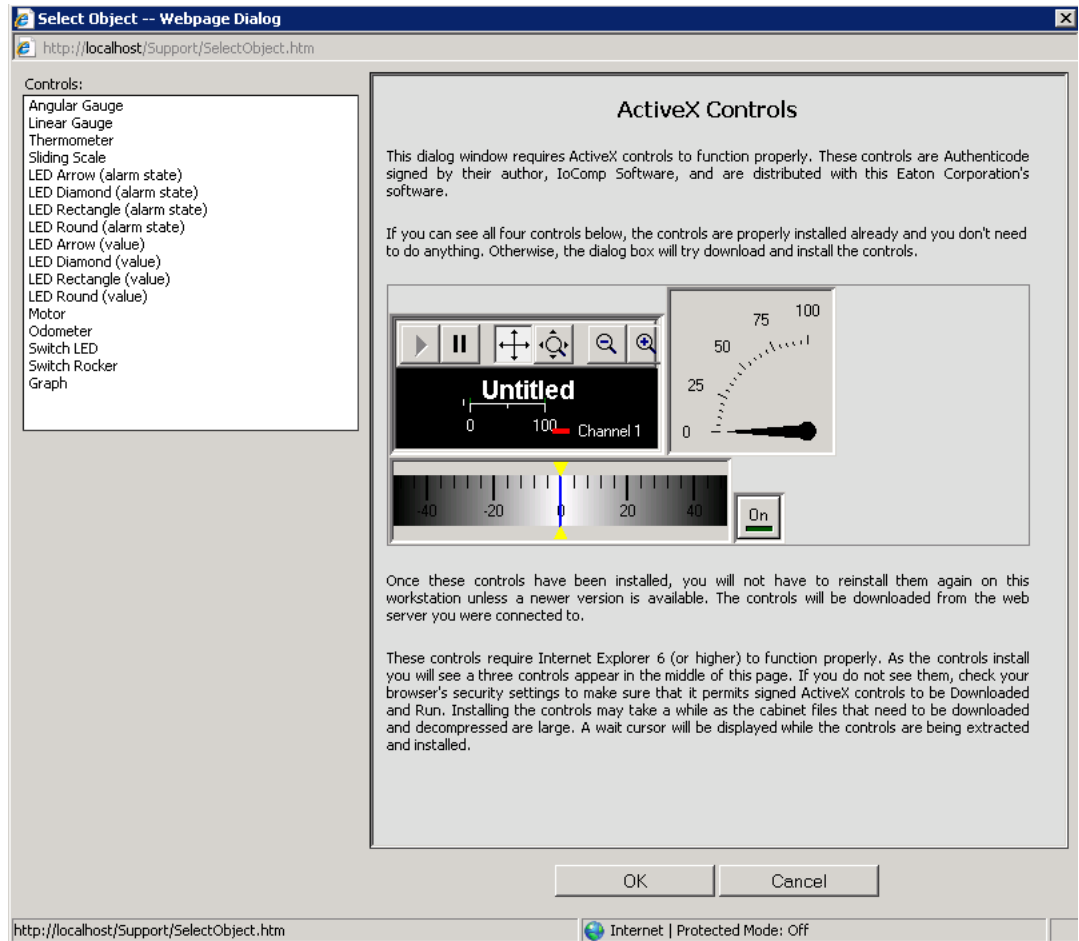
5. Click **OK**.

Waveform Viewer Object

Some devices, such as the Power Xpert Meter, can provide Waveform data associated with any power event defined as a waveform at the meter itself. This data can be viewed using a linked Waveform object. Each event is presented as a row in tabular format, and users can access the waveform viewer for that event by clicking the appropriate row.

Report Object

WebViews Reports furnish important insights into system performance by providing predefined Server information. All of the archived information required to produce a report already resides at the Web Server and is downloaded to the WebViews browser on request where it can be viewed and/or printed locally.

Normally, users will access reports via the Report link at the top of the page. However, if you've changed the default page to remove this link, you can provide access to reports on any page through the Report Object.

Alarm Counts Object

Normally, active alarm counts are reported in the menu bar, which also provides a link to the Alarms page. However, if you've changed the default page to remove this link, you can provide this functionality on any page through the Alarm Counts Object.

Web Objects

The WebViews Editor has two objects that provide web connectivity to your WebViews pages:

Hyperlink object: This object provides a hyperlink to any URL, whether it's another user WebViews, another page on any web server in your intranet, or (if your network is connected to the Internet) any page on the Internet at large.

Iframe object: This object embeds the target of any URL within the current WebViews page. Like the Hyperlink object, the Iframe object is quite flexible and can be connected to virtually anything. For example, you can embed a view from a webcam, pointed at a key part of your facility, directly within a WebViews page.

Hyperlink Object (Ctrl+H)

This object provides text or a button on a web page that can link to any other accessible web page. These pages can either open in a new browser window or replace the WebViews page and load the target into the current browser page.

A Hyperlink object has no link until you set its parameters through the Properties dialog box. You can set the following parameters:

- The text for the hyperlink itself.

- The target URL.

- Whether the page should open in the same or a new browser window.

- If the page opens in a new browser window, the height and width of the window.

- The z-index of the Hyperlink object on the WebViews page.

- The style (visual format) of the Hyperlink object. By default, there are four available styles for Hyperlink objects; however, you can add your own.

To create a Hyperlink object:

- Press Ctrl+H or right-click on the page and select Hyperlink from the Objects menu.

To configure a Hyperlink object:

1. Double-click the object to display its **Properties** dialog box.

2. Enter a **Label** for the hyperlink text. The **Label** should describe the target or purpose of the Hyperlink object. This field can remain blank, and having it blank is a good approach if you wish to create a transparent hyperlink area that can overlay another object.

3. Enter the URL. This required field is the actual path to the linked page.

4. Specify whether the linked page opens in a new browser window by selecting that option within the **Open In** drop-down box. When opening a new window, you can define the desired window size in the **Width** and **Height** fields. Selecting zero values for **Width** and **Height** opens the new window with the browser's default values.

5. If desired, change the **Z Index** stacking layer.

6. Select the style for the Hyperlink object in the **Class** tab. By default, four styles are available:

    *   `Hlink0` provides a button with centered, 12 pixel high, black Arial text.

    *   `Hlink1` provides a transparent object with centered, 12 pixel high, black Arial text.

    *   `Hlink2` provides a gray box with 12 pixel high, black Arial Text.

    *   `Hlink3` provides a transparent object with 14 pixel high, white Arial bold text.

Tip

If you understand how to work with Cascading Style Sheets, you can create your own custom styles for the Hyperlink object. See the section called "CSS Files" [92] for details.

Figure 20. Hyperlink Properties Dialog Box
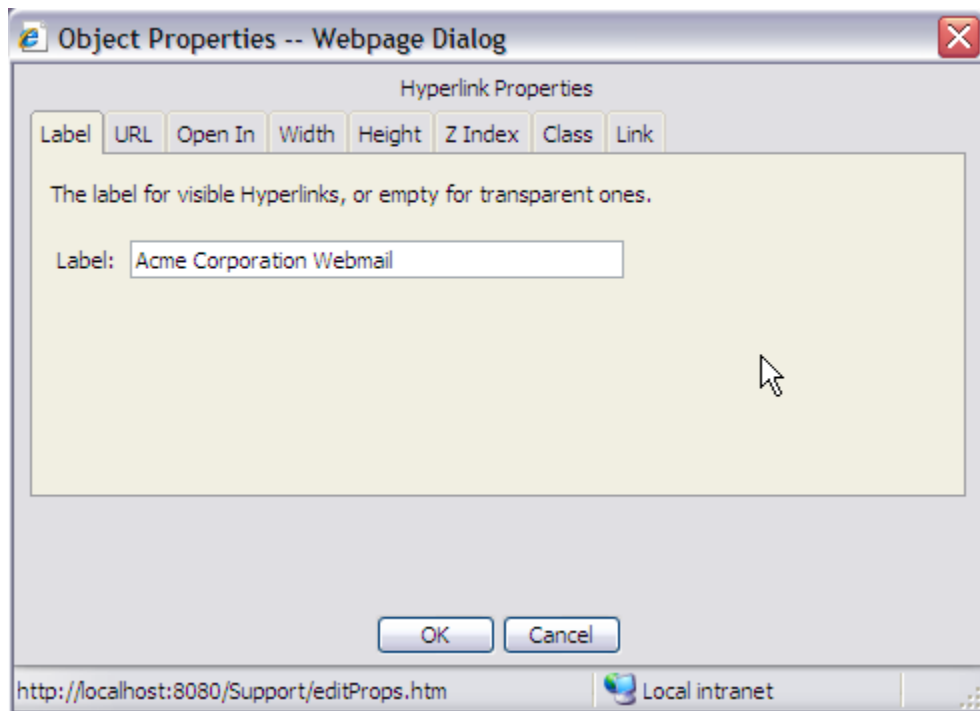
7. Click the **OK** button.

Note

You can do almost anything with a Hyperlink object that you can do with an `<a href>` element in an HTML page. For example, if you specify the `mailto:` protocol and provide an email address as part of that link, clicking the Hyperlink object will launch the default email program with an email preloaded with that address.

IFrame Object

IFrame objects provide the functionality of the HTML 4.0 IFrame element in WebViews pages. You can use IFrame objects to embed other web pages directly in a WebViews pages. For example, you can embed frames that show streaming video from web cams throughout your fa-

cility or that provide access to web-hosted forms or email systems within your intranet. Any custom HTML you create and serve via a web server can be referenced and embedded in a WebViews page with this object.

⚠Caution

Do not point an IFrame object to any Foreseer page. You should link IFrame objects only to external web pages.

For more information about IFrame elements in HTML, see: http://www.w3.org/TR/REC-html40/present/frames.html#h-16.5 [].

As with Hyperlink objects, IFrame objects are first placed and sized on the WebViews page, and then configured using the **Properties** dialog box.

You can set the following parameters:

- The target URL.

- The name attribute for the IFrame. This can be used by a Hyperlink object to control the content in the IFrame.

- Other HTML IFrame attributes, such as `scrolling`.

- The Z-Index stacking layer for the object.

To create an IFrame object:

1. Double-click the **IFrame** object to display its **Properties** dialog box.

2. In the **Source** tab, type in the target URL including the protocol. For example:

   ```
   http://www.eaton.com
   ```

   - *Optional:* In the **Name** tab, type in the value for the name attribute for the IFrame. You only need the name attribute if you will refer to this IFrame through either content in another IFrame or a Hyperlink object.

   - *Optional:* In the **Properties** tab, type in any additional IFrame HTML attributes you'd like to use. The width and height attributes are ignored, and instead the width and height is taken from the size of the IFrame object that you draw. Refer to the following list for information concerning the syntax for each attribute. Never use double-quotes, as the attribute value will not be retained. Single quotes are not required around the arguments. You can use the following attributes:

   `marginwidth`: Sets the whitespace margin (in pixels) to the left and right between the frame and the frame content. For example:

   ```
   marginwidth=20
   ```

   `marginheight`: Sets the whitespace margin (in pixels) at the top and bottom between the frame and the frame content. For example:

   ```
   marginheight=10
   ```

   `scrolling`: Turns scroll bars around the frame on (yes), off (no), or sets them to appear if content exceeds the dimensions of the frame (auto). For example:

   ```
   scrolling=no
   ```

> `frameborder`: Turns the beveled appearance around the frame on (1) or off (0). For example:
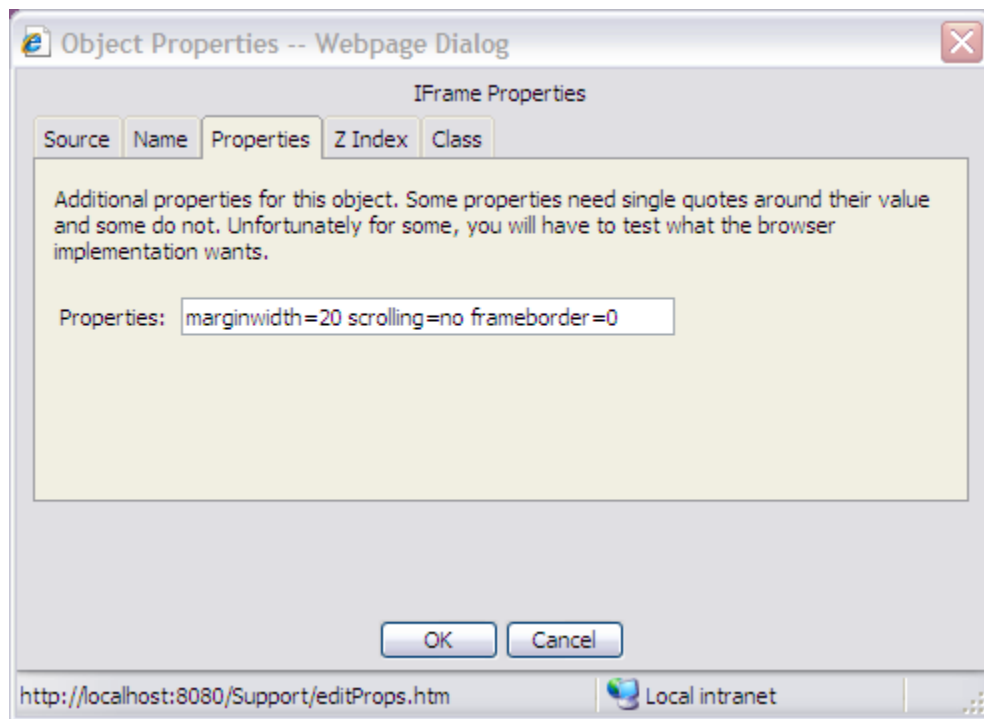>
> `frameborder=0`

3. Sets the **Z index** value, if you wish to specify a stacking layer other than the default.

4. Click **OK**.

<div align="center">

Note

</div>

There are no predefined styles for the IFrame object, so there are no usable settings for the **Class** tab.

Figure 21. The IFrames Object Properties Dialog Box

Templates

Creating and Applying a Template

Once the basic layout is established and a page's functionality demonstrated, it can be saved as a template to aid in the creation of similar WebViews pages. Templates will only display channels that were viewable from the existing page. While many channels may exist in the WebViews device folder, only channels created to be viewable in a web page are generated in a template.

Subfolder links are not created from a template. Subfolders can be created within the WEB TEMPLATES folder, however, to store templates for various kinds of devices or screen types. For example, you could create an AC folder or a Power Management Screen subfolder to contain those equipment types.

To create a WebViews template:

1. Finalize the WebViews page that will become the template by checking object links using the **U** command to report any unlinked channels.

2. Either launch the Foreseer application or the Web Configuration application.

3. Right-click on the folder containing the current page and choose **Create Templates for the Tree** in the **Templates** submenu. This will include any subordinate pages in the template.

4. Name the template and click **Save** to retain it in the `Web Templates` folder for future use.

5. Right-click on `<WebViews>` to create a new folder for the Device you are adding.

6. Right-click on the target folder and choose the **Create Pages for Tree from Templates** command to incorporate all pages into the template.

7. Select the name of the template that you wish to use in the subsequent dialog box and click **Open**. A **Create WebViews Page from Template** dialog box is presented that associates the template with the Server and Device to which it will be applied.

8. Choose the Server and Device for which you wish to create the WebViews page and then click **OK**.

The folders within WebViews to which you applied the template adds the channels along with all the files necessary to create a linked web page.

If there are pages within a parent view that link to child views, the parent and first child view require folder links. For example, a Device could have a Primary view and an Auxiliary view. The Primary view is the parent, requiring a folder link to Auxiliary. Similarly, the Auxiliary view needs a folder link back to the Primary.

Updating WebViews Templates

Changes to WebViews templates require that their usage be updated on all pages which use them. When the changes are made by Eaton, they are provided as a `.zip` file which contains all of the necessary component files.

To update a WebViews configuration on an active Web Server:

1. Place the **.zip** file containing the update in the `Foreseer Server` directory on your computer and double-click on it to extract its contents. If prompted whether to overwrite existing files, select **Yes to All**.

2. Locate the extracted `WebViews.srv` file and move it into the `Data` folder within the `Foreseer Server` folder.

3. Launch either the Foreseer Server application or the Web , expand the **<WebViews>** tree and delete all subfolders below it.

4. Right-click the **<WebViews>** folder, select **Templates** followed by **Create Pages for Tree from Templates** in its submenu. This launches a **Select a Template** dialog box.

5. Locate the **<Project>** WebViews folder in the dialog box and double-click it.

6. Locate the `WebViews.tpf` template file in the **<Project>** WebViews folder and double-click it.

7. In the subsequent **Create WebViews Page from Template** dialog box, check the **Use the same device names box** at the top and your WebViews are created automatically.

8. Launch the Foreseer Server application. Under the **Administration** # **WebViews Server** menu, check both the **HTTP Server** and **HTTPS server** and verify that the **Enable the HTTP/HTTPS WebViews Server** setting under the **General Properties** tab is selected.

9. Verify that you can view WebViews pages in your browser.

Control Object Reference

This chapter describes the for each of the Control Objects available for use in the . You can access this by right-clicking a Control Object while in Edit mode. When is in edit mode, you'll see the **Editing** message over the menu.

Note

The tabs labelled OPC and Theme list properties that are currently not supported.

Gauges

Angular Gauge

The Angular Gauge control object is a graphical linear gauge that presents an angular representation of the data in either a horizontal or a vertical format.

Figure 22. Angular Gauge Object
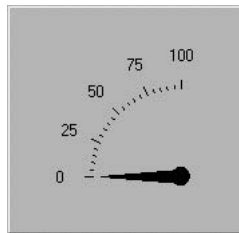
Properties: Control Tab

Figure 23. The Angular Gauge Control Properties Dialog Box - Control Tab
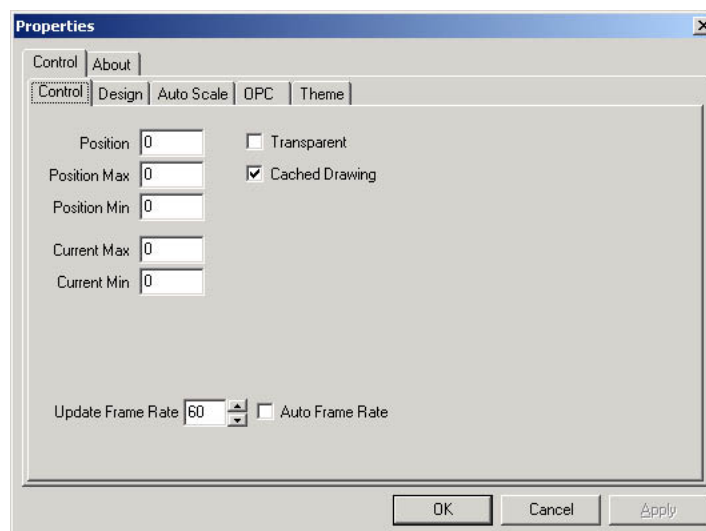
Position — reports the current value of the gauge, which ranges between the Position Max and Position Min values.

Position Max — defines the potential upper limit of the Position property.

Position Min — defines the potential lower limit of the Position property.

Note

The control will "auto-scale," that is, it will automatically reset the maximum or minimum if the values exceed the Position Max or Positioned Min.

Current Max — reports the highest Position value recorded during the current session.

Current Min — reports the lowest Position value recorded during the session.

Transparent — when checked, allows the background image to show through the gauge frame. This option is not supported and may not work in your application.

Cached Drawing — when checked, uses a cached bitmap of the gauge background to speed up refreshing of and improve overall performance.

Update Frame Rate — specifies how often the gauge is refreshed per second following a change. The rate of change per second must be greater than the Update Frame Rate for the desired frame rate to be achieved. The actual number depends on the system hardware, system activity and the number of requests to refresh the gauge.

Auto Frame Rate — when checked, automatically controls the frame refresh rate and can only be activated if the Update Frame Rate is a non-zero number. There must be a steady stream of changes to the gauge that require refreshing for Auto Frame Rate to function correctly.

Properties: Design Tab - General

Figure 24. The Angular Gauge Control Properties Dialog Box - Design: General Tab
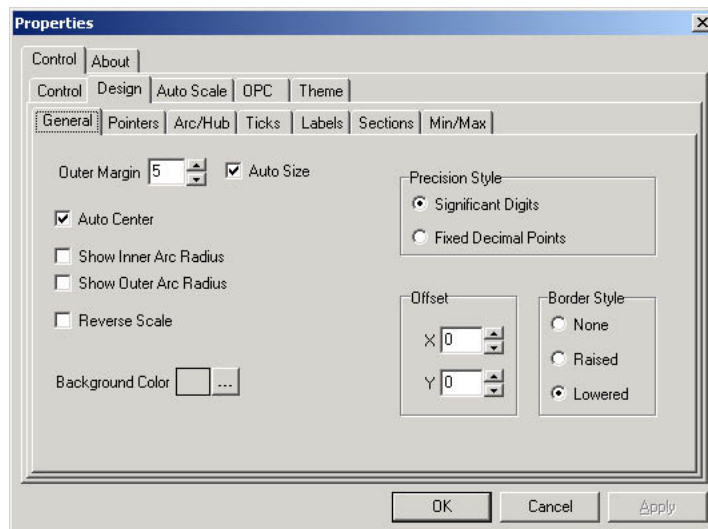
Outer Margin — defines the margin around the gauge in pixels when AutoSize is checked. This property has no effect when AutoSize is disabled.

AutoCenter — when checked, automatically centers the gauge and scale within its defined bounds. Unchecked, the gauge is centered and the scale is drawn to its side. Typically, this setting is disabled when the scale width is changing dynamically and causing the gauge to shift position.

Show Inner Arc Radius — when checked, displays the gauge's inner arc radius. The inner arc radius is the set radius of the arc scale in pixels.

Show Outer Arc Radius — when checked, displays the gauge's outer arc radius. The outer arc radius is the set radius of the arc scale, plus the length of the major ticks, in pixels.

Reverse Scale — when checked, reflects a horizontal gauge scale. If the gauge Orientation is Vertical, the scale starts at the bottom and advances upward; when reversed, the Vertical scale starts at the top of the gauge and descends.

Background Color — specifies the gauge background color. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Precision Style — determines resolution when formatting Major Tick Labels. Significant Digits calculates the number of digits to the right of the decimal point automatically to ensure that the span of the values will show enough significant digits. Fixed Decimal Points displays a fixed number of digits to the right of the decimal point.

Offset — specifies the X and Y offsets of the gauge scale within its defined boundaries. Positive values to move the scale to the right while negative values to move it to the left.

Border Style — specifies the appearance of the outer border of the gauge:

None	no border.
Raised	the outer border is raised to provide a beveled 3D look.
Lowered	the outer border is lowered to provide a beveled 3D look.

Properties: Design Tab - Pointers

Figure 25. The Angular Gauge Control Properties Dialog Box - Design: Pointers Tab
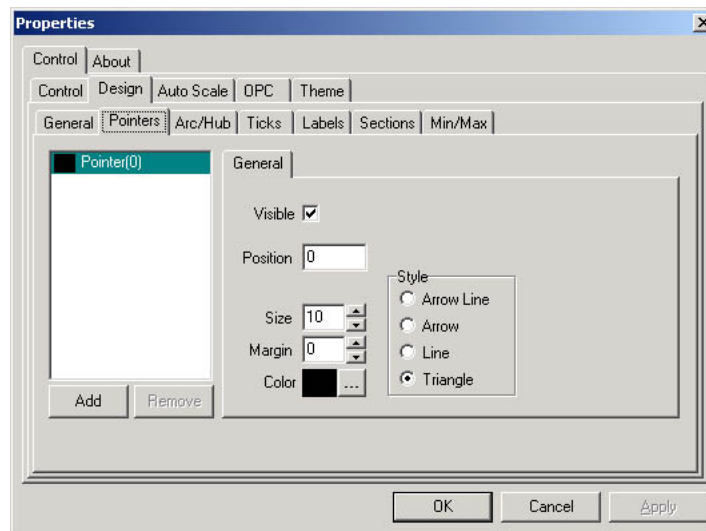
Note

The Angular Gauge objects supports only one pointer.

List Box — allows Pointers to be added to and removed from the gauge. Each Pointer listed is identified by a unique trailing number and can be assigned independent General .

Visible — when checked, displays the Pointer selected in the List Box.

Position — specifies the value of the Pointer selected in the List Box.

Size — specifies the size of the Pointer in pixels.

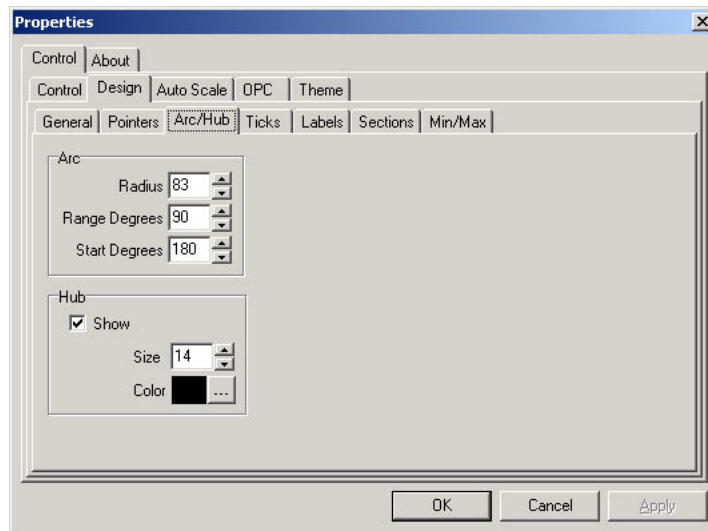Margin — sets the distance between the Pointer and the scale in pixels.

Color — specifies the Pointer color. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Style — specifies the Pointer appearance:

Arrow Line	is a thin line starting at the center point of the gauge Hub with an arrow at the Arc scale.
Arrow	is an arrow at the Arc scale with no line.
Line	is a thin line from the center point of the Hub to the Arc scale.
Triangle	is a triangle from the center point of the Hub to the Arc scale

Properties: Design Tab - Arc/Hub

Figure 26. The Angular Gauge Control Properties Dialog Box - Design: Arc/Hub

Arc: These settings define the arc of the gauge.

Radius — defines the radius of the Arc scale in pixels.

Range Degrees — sets the span of the Arc scale in degrees. The range of the Arc must be 360° or less.

Start Degrees — sets the starting point of the Arc scale in degrees. The Arc is drawn clockwise from this starting point.

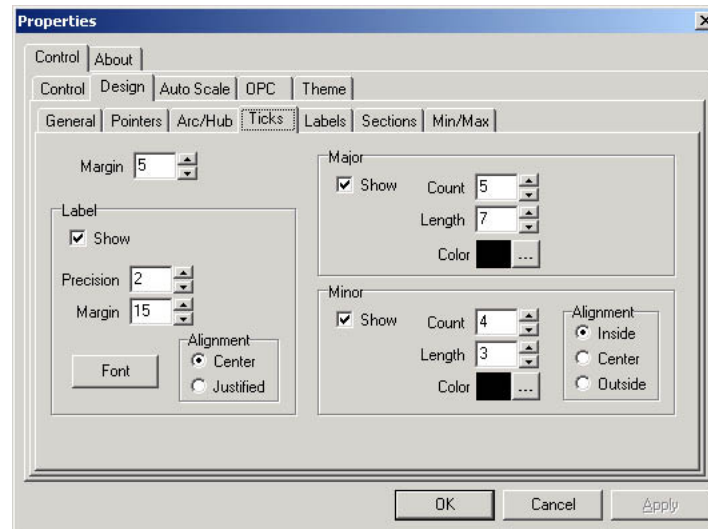Hub: These settings define the hub of the gauge.

Show — when checked, displays the gauge Hub.

Size — specifies the size of the gauge Hub in pixels.

Color — specifies the color of the gauge Hub. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Properties: Design Tab - Ticks

Figure 27. The Angular Gauge Control Properties Dialog Box - Design: Ticks

Margin — defines the distance between the gauge Ticks and the gauge Pointer in pixels.

Label: These settings define the label of the gauge.

Show — when checked, displays the gauge tick Labels text.

Precision — specifies the resolution of the tick labels. The actual number of decimal places shown depends on the Precision Style setting under the General tab. Enter a zero ("0") to show integers only.

Margin — defines the distance between the tick Labels text and Major ticks.

Font — clicking this button displays the Windows Font dialog box, allowing the type of the tick Labels text to be defined.

Alignment — specifies how the text is aligned on the tick Labels:

Center aligns the text to the center point of the Label. This setting is the best choice for Labels that are approximately the same size in order to give them a more professional appearance.

Justified distributes the text from the center point of the Label. This setting is the best choice for Labels that are not the same size in order to give them a more professional appearance.

Major: These settings define the major tick of the gauge.

Show — when checked, displays the Major Ticks on the gauge.

Count — determines the number of Major Ticks displayed. The Count value should be one more than the specified number of major Sections. For example, to show five major Sections, set this field to "6."

Length — specifies the length of the Major Ticks in pixels.

Color — specifies the color of the Major Ticks. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Minor: These settings define the minor tick of the gauge.

Show — when checked, displays Minor Ticks on the gauge.

Count — determines the number of Minor Ticks displayed. The Count value should be one less than the number of specified minor Sections. For example, to show four minor Sections, set this field to "5."

Length — specifies the length of the Minor Ticks in pixels.

Color — specifies the color of the Minor Ticks. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Alignment — specifies how the Minor Ticks are aligned relative to Major Ticks:

Inside	aligns Minor Ticks with the edge of the Major Ticks toward the pointer.
Center	aligns Minor Ticks with the center of the Major Ticks.
Outside	aligns Minor Ticks with the edge of the Major Ticks away from the pointer.

Properties: Design Tab - Labels

Figure 28. The Angular Gauge Control Properties Dialog Box - Design: Labels
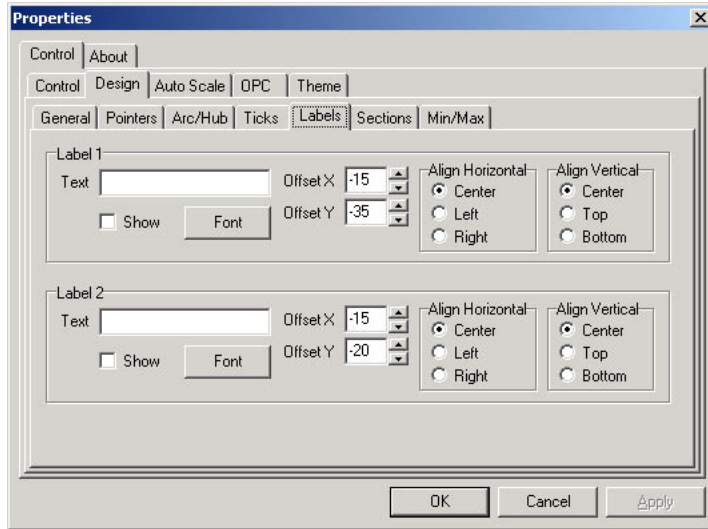
The angular gauge can have two Labels, 1 and 2, defined. The available settings are identical for both.

Text — is the display text for the respective Label.

Show — when checked, displays the specified Label.

Font — clicking this button displays the Windows Font dialog box, allowing the type of each Label to be defined.

Offset X — positions the Label horizontally. Positive values to move the Label to the right while negative values to move it to the left.

Offset Y — positions the Label vertically. Positive values move the Label down, negative values move it up.

Align Horizontal — specifies how each Label is aligned horizontally. The Labels are adjusted according to the Offset X value regardless of this setting.

Center	centers the Label horizontally relative to the center of the gauge Arc.
Left	aligns the Label with the left edge of the gauge.
Right	aligns the Label with the right edge of the gauge.

Align Vertical — specifies how each Label is aligned vertically. The Labels are adjusted according to the Offset Y value regardless of this setting.

Center	centers the Label vertically relative to the center of the gauge Arc.
Top	aligns the Label with the top edge of the gauge.
Bottom	aligns the Label with the bottom edge of the gauge.

Properties: Design Tab - Sections

Figure 29. The Angular Gauge Control Properties Dialog Box - Design: Labels
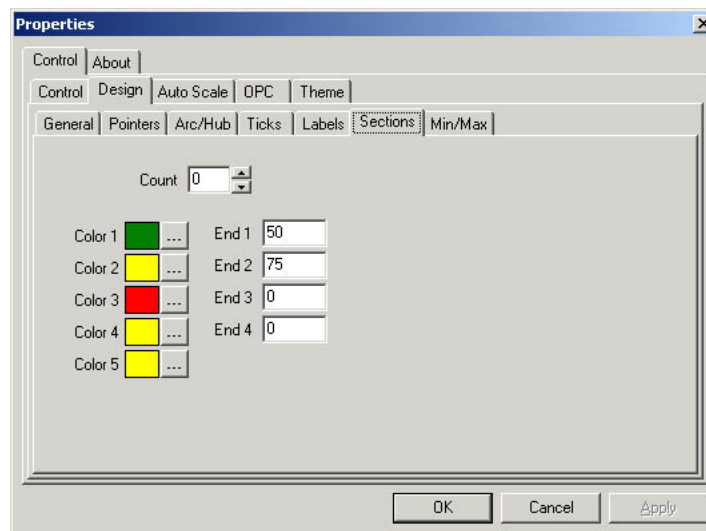
Count — determines the number of divisions in the gauge. A maximum of five Color Sections are possible, with a value of "0" indicating none.

Color 1–5 — specifies the color for each of the defined Sections. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette for each division.

End 1–4 — specifies the end value for each of the defined Sections. End 1 must be a value between the upper and lower limits of the gauge.

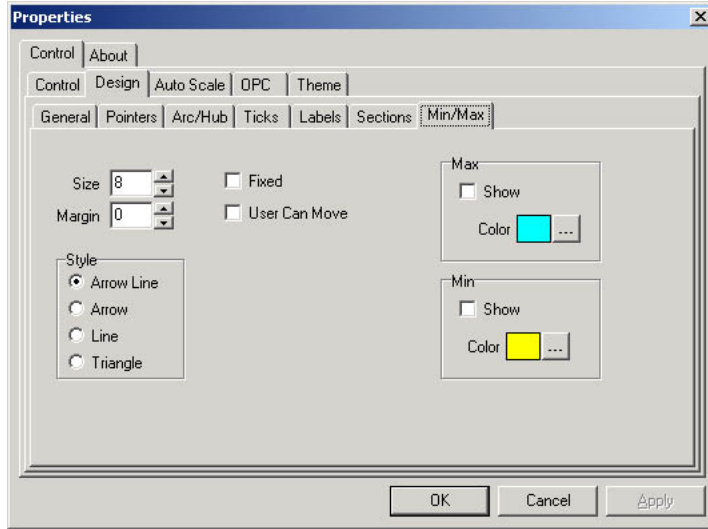**Properties: Design Tab - Min/Max**

Figure 30. The Angular Gauge Control Properties Dialog Box - Design: Min/Max

Size — defines the size of the gauge's minimum and maximum pointers. The setting is in pixels and specifies half the width of the pointers.

Margin — specifies the distance of the minimum and maximum pointers from the position indicator or scale in pixels.

Fixed — determines whether the minimum and maximum pointer positions are fixed or track the range of the current value.

User Can Move — determines whether the user can move the minimum and maximum pointers manually with the mouse.

Style — specifies the appearance of the minimum and maximum value pointers:

Arrow Line	is a thin line starting at the center point of the gauge Hub with an arrow at the Arc scale.
Arrow	is an arrow at the Arc scale with no line.
Line	is a thin line from the center point of the Hub to the Arc scale.
Triangle	is a triangle from the center point of the Hub to the Arc scale.

Max: These settings define the maximum gauge pointer .

Show — when checked, displays the maximum value pointer.

Color — specifies the color of the maximum pointer. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Min: These settings define the minimum gauge pointer .

Show — when checked, displays the minimum value pointer.

Color — specifies the color of the minimum pointer. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Properties: Control Tab - Control: Auto-Scale

<div align="center">

Note

</div>

The control will "auto-scale," that is, it will automatically reset the maximum or minimum regardless of this setting.

Linear Gauge

Properties: Control Tab

Figure 31. The Linear Gauge Control Properties Dialog Box - Control Tab
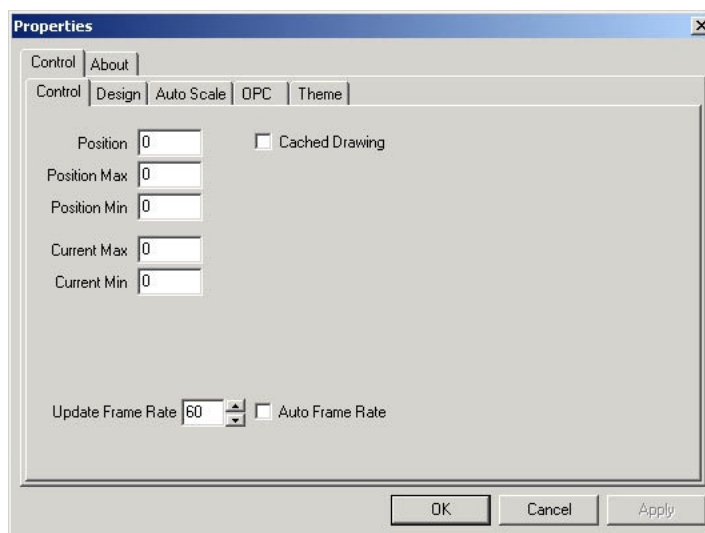
Position — reports the current value of the gauge, which ranges between the Position Max and Position Min values.

Position Max — defines the potential upper limit of the Position property.

Position Min — defines the potential lower limit of the Position property.

<div align="center">

Note

</div>

The control will "auto-scale," that is, it will automatically reset the maximum or minimum if the values exceed the Position Max or Positioned Min.

Current Max — reports the highest Position value recorded during the current editing session.

Current Min — reports the lowest Position value recorded during the current editing session.

Cached Drawing — when checked, uses a cached bitmap of the gauge background to speed up refreshing of and improve overall performance.

Update Frame Rate — specifies how often the gauge is refreshed per second following a change. The rate of change per second must be greater than the Update Frame Rate for the

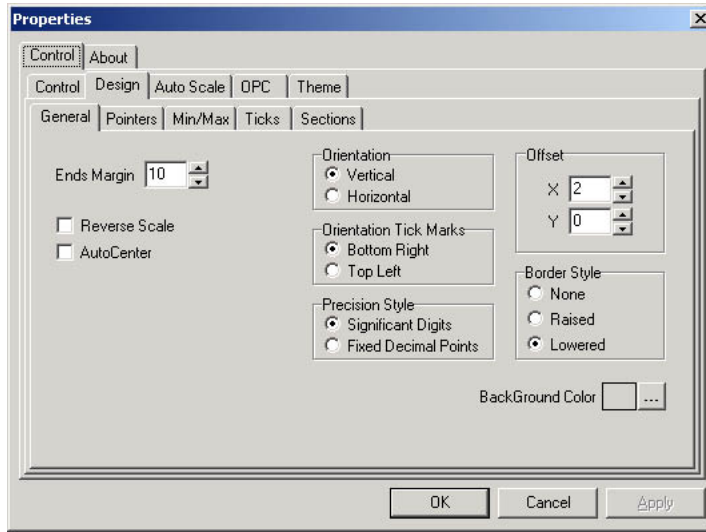desired frame rate to be achieved. The actual number depends on the system hardware, system activity and the number of requests to refresh the gauge.

Auto Frame Rate — when checked, automatically controls the frame refresh rate and can only be activated if the Update Frame Rate is a non-zero number. There must be a steady stream of changes to the gauge that require refreshing for Auto Frame Rate to function correctly.

Properties: Design Tab - General

Figure 32. The Linear Gauge Control Properties Dialog Box - Design: General Tab

Ends Margin — specifies the margins at each end of the Tick Labels in pixels. Depending on the font size used for the Labels, this setting may have to be adjusted to avoid clipping the displayed text.

Reverse Scale — when checked, reflects a horizontal gauge scale. If the gauge Orientation is Vertical, the scale starts at the bottom and advances upward; when reversed, the Vertical scale starts at the top of the gauge and descends.

AutoCenter — when checked, automatically centers the gauge and scale within its defined bounds. Unchecked, the gauge is centered and the scale is drawn to its side. Typically, this setting is disabled when the scale width is changing dynamically and causing the gauge to shift position.

Orientation — specifies the orientation of the gauge scale:

Vertical	places the minimum limit at the bottom and the maximum limit at the top.
Horizontal	places the minimum limit on the left and the maximum limit on the right.

Orientation Tick Marks — determines where the Ticks are drawn:

Bottom Right	places Tick Marks on the bottom or on the right of the gauge, depending on the scale Orientation.
Top Left	places Tick Marks on the top or on left of the gauge, depending of the scale Orientation.

Precision Style — determines resolution when formatting Major Tick Labels. Significant Digits calculates the number of digits to the right of the decimal point automatically to ensure that the span of the values will show enough significant digits. Fixed Decimal Points displays a fixed number of digits to the right of the decimal point.

Offset X — positions the gauge scale horizontally within its defined boundaries. Positive values to move the Label to the right while negative values to move it to the left.

Offset Y — positions the gauge scale vertically within its defined boundaries. Positive values move the Label down, negative values move it up.

Background Color — specifies the gauge background color. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Properties: Design Tab - General: Pointers

Figure 33. The Linear Gauge Control Properties Dialog Box - Design: Pointers
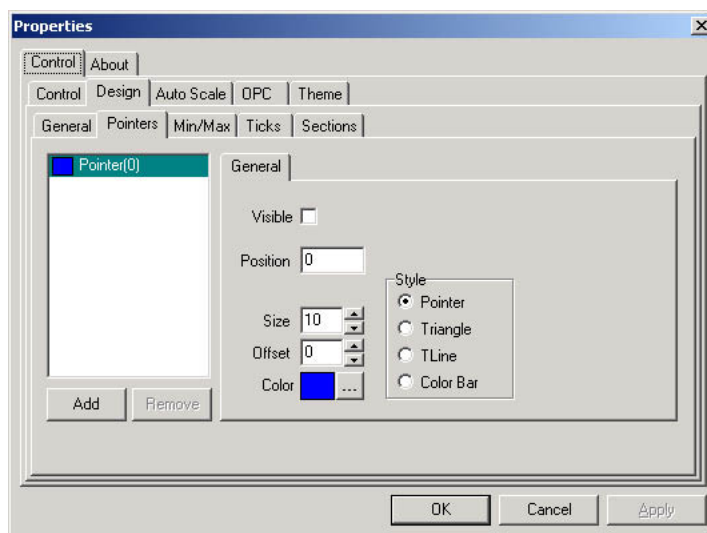
Note

The Linear Gauge object supports only one pointer.

List Box — allows Pointers to be added to and removed from the gauge. Each Pointer listed is identified by a unique trailing number and can be assigned independent General .

Visible — when checked, displays the Pointer selected in the List Box.

Position — specifies the value of the Pointer selected in the List Box.

Offset — establishes the distance between the selected Pointer and the Ticks Axis in pixels.

Size — determines the size of the selected Pointer in pixels.

Color — specifies the Pointer color. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.
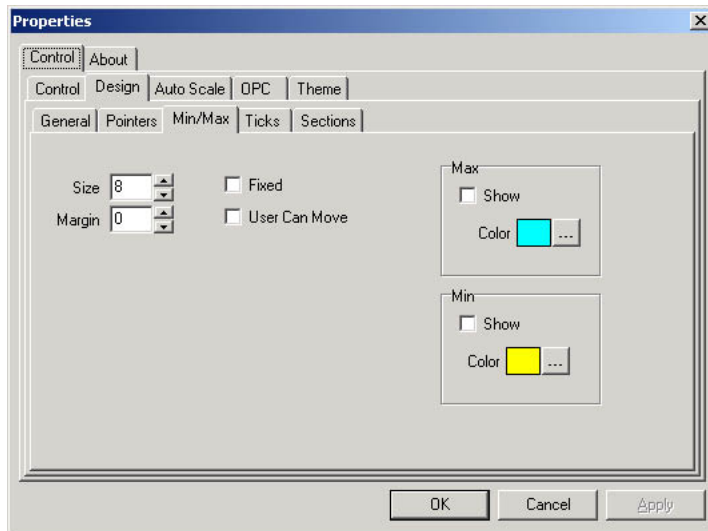
Style — specifies the Pointer appearance:

Pointer	is a triangle with a box and side lengths equal to the Pointer Size.

Triangle	is a triangle only with side lengths equal to the Pointer Size.
TLine	is a line running from the gauge Min to Max values with a perpendicular line equal to the Pointer Size.
Color Bar	is a color bar with a width equal to the Major Tick Length.

Properties: Design Tab - General: Min/Max

Figure 34. The Linear Gauge Control Properties Dialog Box - Design: Min/Max

Size — defines the size of the gauge's minimum and maximum pointers. The setting is in pixels and specifies half the width of the pointers.

Margin — specifies the distance of the minimum and maximum pointers from the position indicator or scale in pixels.

Fixed — determines whether the minimum and maximum pointer positions are fixed or track the range of the current value.

User Can Move — determines whether the user can move the minimum and maximum pointers manually with the mouse.

Max: These settings define the maximum gauge pointer .

Show — when checked, displays the maximum value pointer.

Color — specifies the color of the maximum pointer. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.
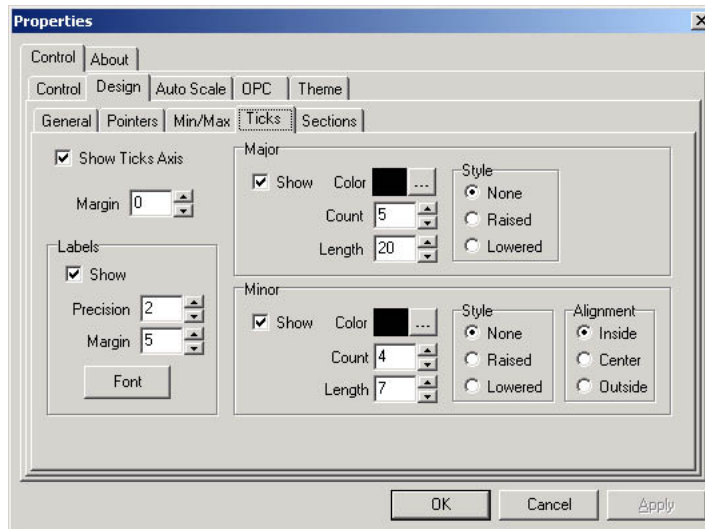
Min: These settings define the minimum gauge pointer .

Show — when checked, displays the minimum value pointer.

Color — specifies the color of the minimum pointer. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Properties: Design Tab - General: Ticks

Figure 35. The Linear Gauge Control Properties Dialog Box - Design: Ticks

Show Ticks Axis — when checked, displays the first and last Major ticks.

Margin — defines the distance between the gauge Ticks and the gauge Pointer in pixels.

Label: These settings define the gauge label .

Show — when checked, displays the gauge tick Labels.

Precision — specifies the resolution of the tick labels. The actual number of decimal places shown depends on the Precision Style setting under the General tab. Enter a zero ("0") to show integers only.

Margin — defines the distance between the tick Labels and Major ticks.

Font — clicking this button displays the Windows Font dialog box, allowing the type of the tick Labels to be defined.

Major: These settings define the major gauge tick .

Show — when checked, displays the gauge Major Ticks.

Color — specifies the color of the Major Ticks. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Count — determines the number of Major Ticks displayed. The Count value should be one more than the specified number of major Sections. For example, to show five major Sections, set this field to "6."

Length — specifies the length of the Major Ticks in pixels.

Style — specifies the appearance of the Major Ticks:

None	No border.
Raised	The outer border is raised to provide a beveled 3D look.

Lowered	The outer border is lowered to provide a beveled 3D look.

Minor: These settings define the minor gauge tick .

Show — when checked, displays the gauge Minor Ticks.

Color — specifies the color of the Minor Ticks. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Count — determines the number of Minor Ticks displayed. The Count value should be one less than the specified number of minor Sections. For example, to show four minor Sections, set this field to "5."

Length — specifies the length of the Minor Ticks in pixels.

Style — specifies the appearance of the Minor Ticks:

None	No border.
Raised	The outer border is raised to provide a beveled 3D look.
Lowered	The outer border is lowered to provide a beveled 3D look.

Alignment — specifies how the Minor Ticks are aligned relative to Major Ticks:

Inside	aligns Minor Ticks with the edge of the Major Ticks toward the pointer.
Center	aligns Minor Ticks with the center of the Major Ticks.
Outside	aligns Minor Ticks with the edge of the Major Ticks away from the pointer.

Properties: Design Tab - General: Sections

Figure 36. The Linear Gauge Control Properties Dialog Box - Design: Sections
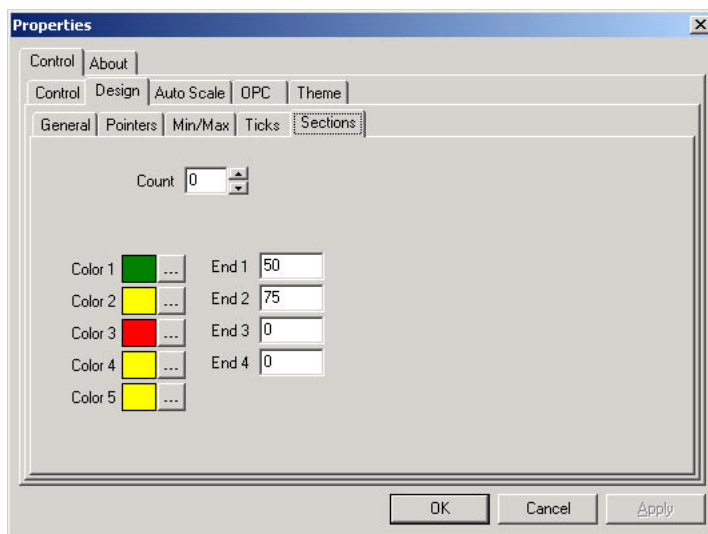
Count — determines the number of divisions in the gauge. A maximum of five Color Sections are possible, with a value of "0" indicating none.

Color 1–5 — specifies the color for each of the defined Sections. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette for each division.

End 1–4 — specifies the end value for each of the defined Sections. End 1 must be a value between the upper and lower limits of the gauge.

Properties: Control Tab - Control: Auto-Scale

Figure 37. The Linear Gauge Control Properties Dialog Box - Design: Auto-Scale

Note

The control will "auto-scale," that is, it will automatically reset the maximum or minimum regardless of this setting.

Thermometer
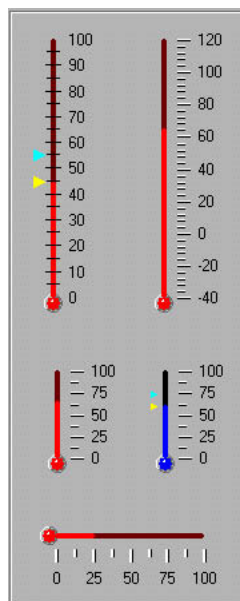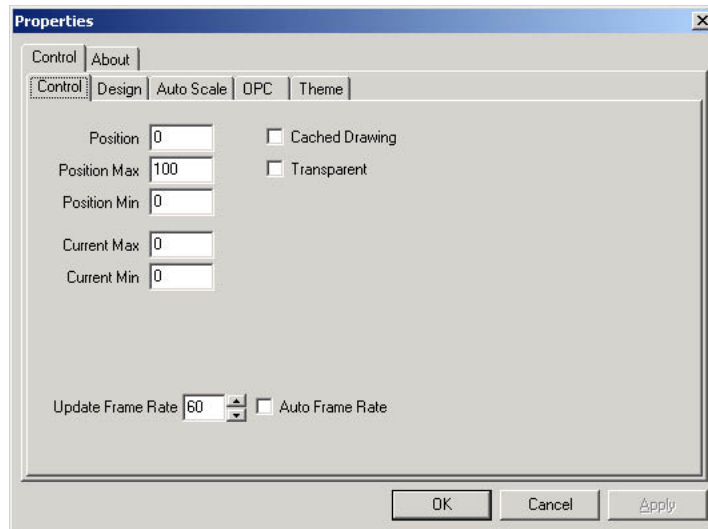
Figure 38. Thermometer

The Thermometer is a linear gauge that presents a visual representation that looks like a thermometer. It can be displayed in either a horizontal or a vertical format.

Properties: Control Tab

Figure 39. The Thermometer Control Properties Dialog Box - Control Tab

Position — reports the current value of the gauge, which ranges between the Position Max and Position Min values.

Position Max — defines the potential upper limit of the Position property.

Position Min — defines the potential lower limit of the Position property.

Note

The control will "auto-scale," that is, it will automatically reset the maximum or minimum if the values exceed the Position Max or Positioned Min.

Current Max — reports the highest Position value recorded during the current session.

Current Min — reports the lowest Position value recorded during the session.

Cached Drawing — when checked, uses a cached bitmap of the gauge background to speed up refreshing of and improve overall performance.

Transparent — when checked, allows the background image to show through the gauge. This option is not supported and may not work in your application.

Update Frame Rate — specifies how often the gauge is refreshed per second following a change. The rate of change per second must be greater than the Update Frame Rate for the desired frame rate to be achieved. The actual number depends on the system hardware, system activity and the number of requests to refresh the gauge.

Auto Frame Rate — when checked, automatically controls the frame refresh rate and can only be activated if the Update Frame Rate is a non-zero number. There must be a steady stream of changes to the gauge that require refreshing for Auto Frame Rate to function correctly.

Properties: Design Tab - General

Figure 40. The Thermometer Gauge Control Properties Dialog Box - Design: General Tab
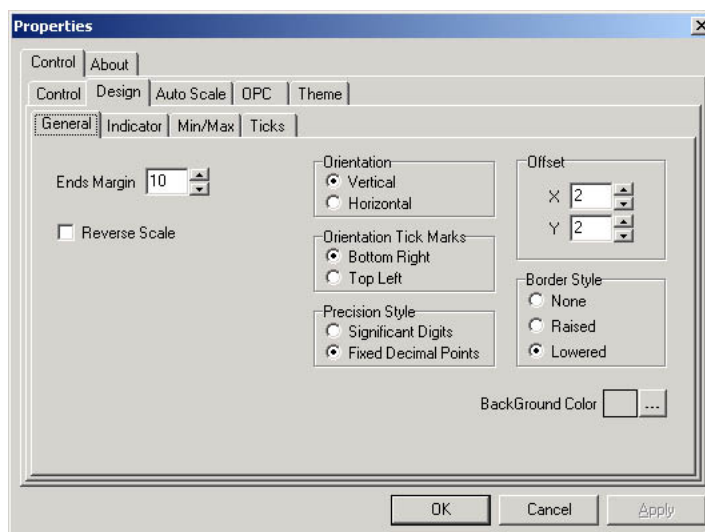
Ends Margin — specifies the margins at each end of the Tick Labels in pixels. Depending on the font size used for the Labels, this setting may have to be adjusted to avoid clipping the displayed text.

Reverse Scale — when checked, reflects a horizontal gauge scale. If the thermometer Orientation is Vertical, the scale starts at the bottom and advances upward; when reversed, the Vertical scale starts at the top of the gauge and descends.

Auto Center — when checked, automatically centers the gauge and scale within its defined bounds. Unchecked, the thermometer is centered and the scale is drawn to its side. Typically, this setting is disabled when the scale width is changing dynamically and causing the gauge to shift position.

Orientation — specifies the orientation of the gauge scale:

Vertical	places the minimum limit at the bottom and the maximum limit at the top.
Horizontal	places the minimum limit on the left and the maximum limit on the right.

Orientation Tick Marks — determines where the Ticks are drawn:

Bottom Right	places Tick Marks on the bottom or on the right of the gauge, depending on the scale Orientation.
Top Left	places Tick Marks on the top or on left of the gauge, depending of the scale Orientation.

Precision Style — determines resolution when formatting Major Tick Labels. Significant Digits calculates the number of digits to the right of the decimal point automatically to ensure that the span of the values will show enough significant digits. Fixed Decimal Points displays a fixed number of digits to the right of the decimal point.

Offset X — positions the gauge scale horizontally within its defined boundaries. Positive values to move the Label to the right while negative values to move it to the left.

Offset Y — positions the gauge scale vertically within its defined boundaries. Positive values move the Label down, negative values move it up.

Border Style — specifies the appearance of the outer border of the gauge:

None	No border.
Raised	The outer border is raised to provide a beveled 3D look.
Lowered	The outer border is lowered to provide a beveled 3D look.

Background Color — specifies the gauge background color. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Properties: Design Tab - Indicator

Figure 41. The Thermometer Gauge Control Properties Dialog Box - Design: Indicator Tab
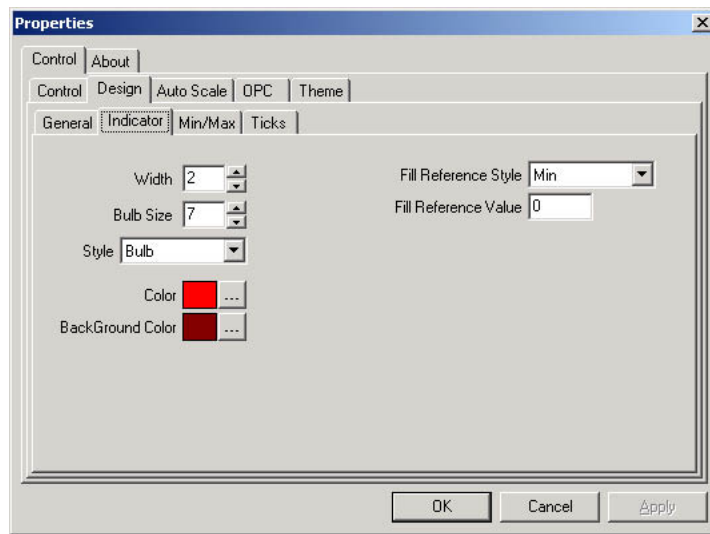
Width — defines the thickness of the thermometer Bulb in pixels.

Bulb Size — defines the length of the thermometer Bulb in pixels.

Color — specifies the indicator Bulb color. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Background Color — specifies the indicator background color. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Fill Reference Style — determines the appearance of the thermometer fill line based on the Min scale, the Max scale or a point specified by the Fill Reference Value.

Fill Reference Value — specifies where the indicator fill starts on the scale. This setting is only used when the Fill Reference Style is set to Value.

Properties: Design Tab - Mini/Max

Figure 42. The Thermometer Gauge Control Properties Dialog Box - Design: Min/Max Tab
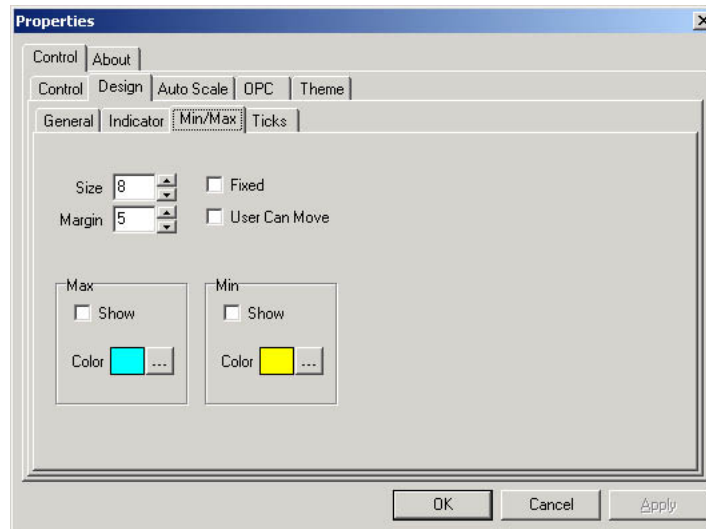
Size — defines the size of the thermometer's minimum and maximum pointers. The setting is in pixels and specifies half the width of the pointers.

Margin — specifies the distance of the minimum and maximum pointers from the position indicator or scale in pixels.

Fixed — determines whether the minimum and maximum pointer positions are fixed or track the range of the current value.

User Can Move — determines whether the user can move the minimum and maximum pointers manually with the mouse.

Max: These settings define the maximum thermometer pointer .

Show — when checked, displays the maximum value pointer.

Color — specifies the color of the maximum pointer. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Min: These settings define the minimum thermometer pointer .

Show — when checked, displays the minimum value pointer.

Color — specifies the color of the minimum pointer. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Properties: Design Tab - Ticks

Figure 43. The Thermometer Gauge Control Properties Dialog Box - Design: Ticks Tab
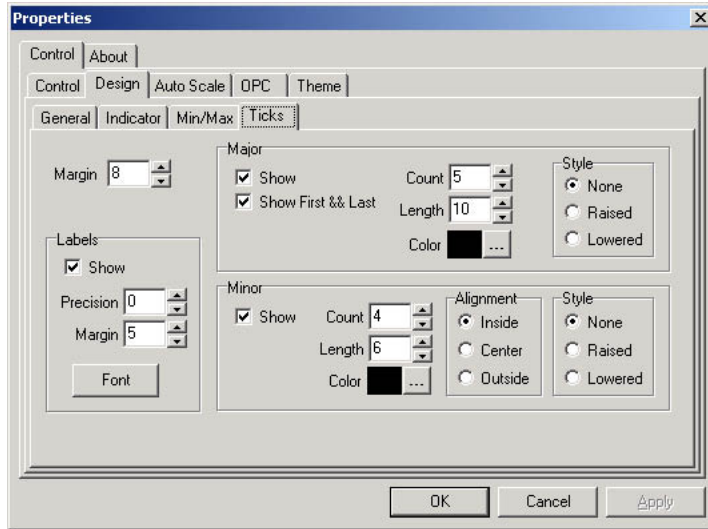
Margin — defines the distance between the gauge Ticks and the gauge Pointer in pixels.

Labels: These settings define the thermometer tick .

Show — when checked, displays the gauge tick Labels.

Precision — specifies the resolution of the tick labels. The actual number of decimal places shown depends on the Precision Style setting under the General tab. Enter a zero ("0") to show integers only.

Margin — defines the distance between the tick Labels and Major ticks.

Font — clicking this button displays the Windows Font dialog box, allowing the type of the tick Labels to be defined.

Major: These settings define the major thermometer tick .

Show — when checked, displays the gauge Major Ticks.

Show First && Last — when checked, displays the first and last Major ticks.

Color — specifies the color of the Major Ticks. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Count — determines the number of Major Ticks displayed. The Count value should be one more than the desired number of major Sections. For example, to show five major Sections, set this field to "6."

Length — specifies the length of the Major Ticks in pixels.

Style — specifies the appearance of the Major Ticks:

None	No border.
Raised	The outer border is raised to provide a beveled 3D look.

| Lowered | The outer border is lowered to provide a beveled 3D look. |

Minor: These settings define the minor thermometer tick .

Show — when checked, displays the gauge Minor Ticks.

Color — specifies the color of the Minor Ticks. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Count — determines the number of Minor Ticks displayed. The Count value should be one less than the desired number of minor Sections. For example, to show four minor Sections, set this field to "5."

Length — specifies the length of the Minor Ticks in pixels.

Alignment — specifies how the Minor Ticks are aligned relative to Major Ticks:

Inside	aligns Minor Ticks with the edge of the Major Ticks toward the pointer.
Center	aligns Minor Ticks with the center of the Major Ticks.
Outside	aligns Minor Ticks with the edge of the Major Ticks away from the pointer.

Style — specifies the appearance of the Minor Ticks:

None	No border.
Raised	The outer border is raised to provide a beveled 3D look.
Lowered	The outer border is lowered to provide a beveled 3D look.

Properties: Control Tab - Auto-Scale

Figure 44. The Thermometer Gauge Control Properties Dialog Box - Design: Auto-Scale Tab
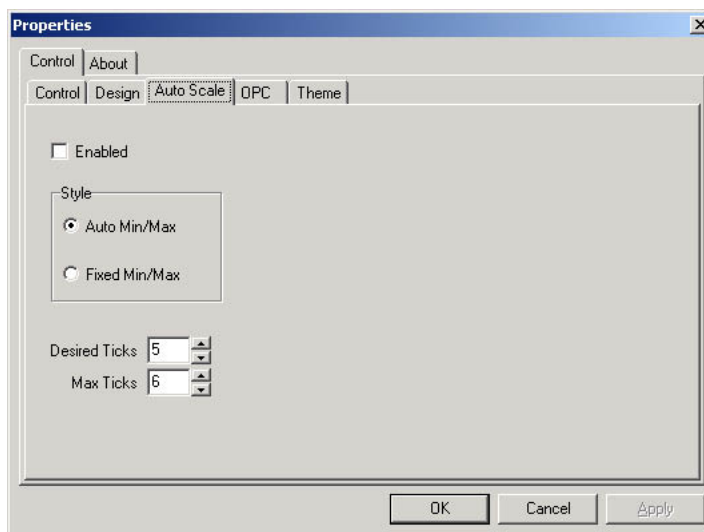
Note

This control will "auto-scale" regardless of the Enabled setting.

Enabled — when checked, automatically adjusts the thermometer scale based on the current value.

Style — specifies the method for adjusting the upper and lower limits when AutoScale is Enabled:

AutoMinMax	adjusts the scale to start and stop on a Major Tick.
FixedMinMax	maintains the established upper and lower scale limits such that the scale may not start or stop on a Major Tick.

Desired Ticks — specifies the desired number of Major Ticks when AutoScale is Enabled. The actual Major Tick Count may be greater or less than the entered amount.

Max Ticks — specifies the maximum number of Major Ticks when AutoScale is Enabled. The actual Major Tick Count will always be less than or equal to the Max Tick Count when autoscaled. If a Major Tick Count can not be calculated that is less than or equal to the Max Tick Count, then the scaling will not be changed.

Sliding Scale

Figure 45. Sliding Scale
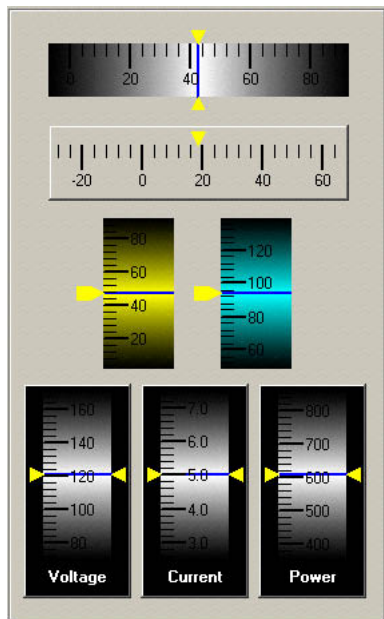
The Sliding Scale is a moving gauge with a linear representation of the data. A single static pointer indicates the position of the moving scale.

Properties: Control Tab

Figure 46. The Sliding Scale Control Properties Dialog Box - Control Tab
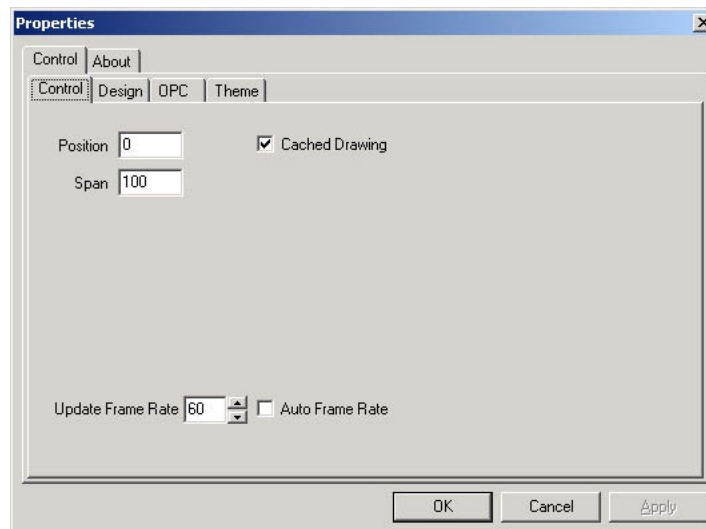
Position — reports the current value of the sliding scale.

Span — is the range of values in the sliding scale. The displayed scale is centered around the labels which corresponds to the Position property, starting at the point specified by the Orientation property under the General tab.

Cached Drawing — when checked, uses a cached bitmap of the gauge background to speed up refreshing of and improve overall performance.

Update Frame Rate — specifies how often the gauge is refreshed per second following a change. The rate of change per second must be greater than the Update Frame Rate for the desired frame rate to be achieved. The actual number depends on the system hardware, system activity and the number of requests to refresh the scale.

Auto Frame Rate — when checked, automatically controls the frame refresh rate and can only be activated if the Update Frame Rate is a non-zero number. There must be a steady stream of changes to the gauge that require refreshing for Auto Frame Rate to function correctly.

Properties: Design Tab - General

Figure 47. The Sliding Scale Gauge Control Properties Dialog Box - Design: General Tab
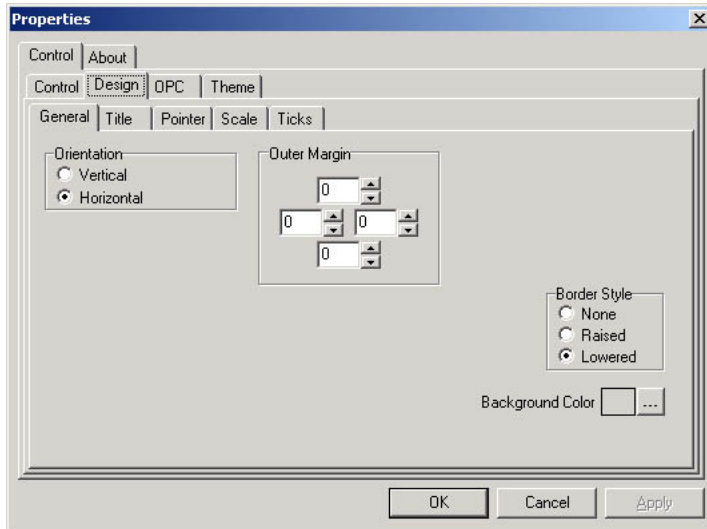
Orientation — specifies the orientation of the sliding scale:

Vertical	places the minimum limit at the bottom and the maximum limit at the top.
Horizontal	places the minimum limit on the left and the maximum limit on the right.

Outer Margin — defines the distance between the sides of the sliding scale and its background area in pixels.

Border Style — specifies the appearance of the outer border of the gauge:

None	No border.
Raised	The outer border is raised to provide a beveled 3D look.
Lowered	The outer border is lowered to provide a beveled 3D look.

Background Color — specifies the gauge background color. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Properties: Design Tab - Title

Figure 48. The Sliding Scale Gauge Control Properties Dialog Box - Design: Title Tab
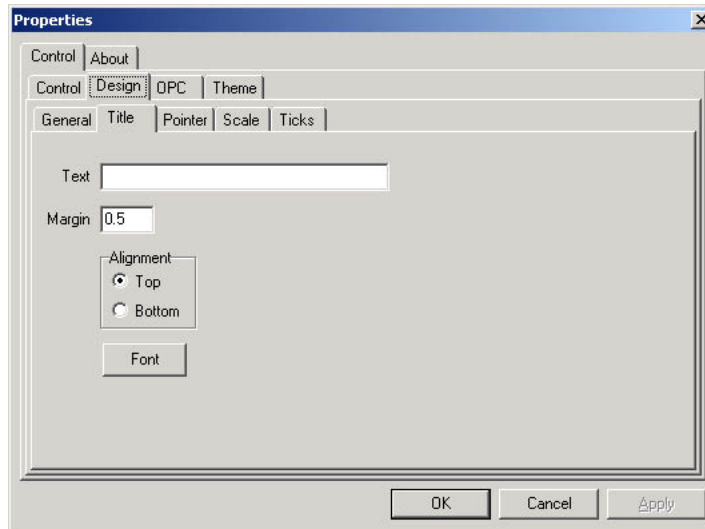
Text — is the title for the sliding scale. Leave this field empty to omit a title.

Margin — defines the distance between the title Text and the edge of the gauge in pixels.

Alignment — specifies the horizontal alignment of the title Text:

Top	aligns the title with the top of the scale.
Bottom	aligns the title with the bottom of the scale.

Font — clicking this button displays the Windows Font dialog box, allowing the type of the tick Labels to be defined.

Properties: Design Tab - Pointer

Figure 49. The Sliding Scale Gauge Control Properties Dialog Box - Design: Pointer Tab
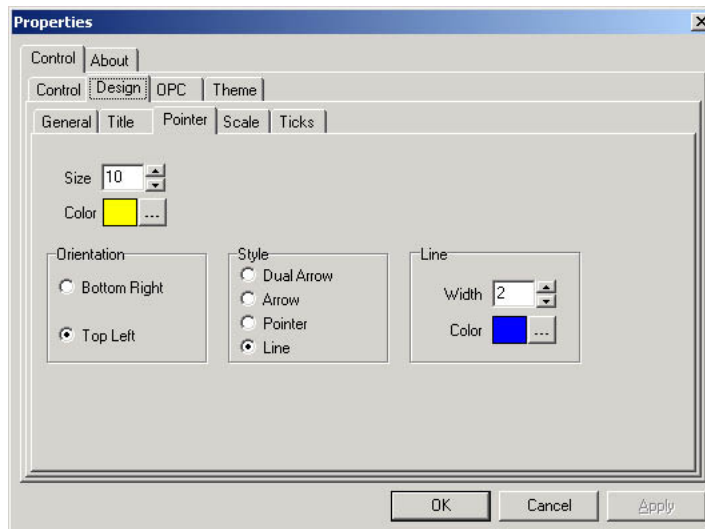
Size — determines the height of the pointer in pixels. The pointer's width and the size of the scale background area are adjusted proportionally.

Color — specifies the pointer color. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Orientation — specifies how the pointer is oriented with respect to the scale:

Bottom Right	places the pointer underneath the scale when its Orientation is Horizontal and to the right of the scale when its Orientation is Vertical.
Top Left	places the pointer on top of the scale when its Orientation is Horizontal and to the left of the scale when its Orientation is Vertical.

Style — defines the appearance of the scale pointer:

Dual Arrow	caps the end of the pointer with triangles; side lengths are equal to the pointer Size.
Arrow	caps the pointer end of the indicator with a triangle; side lengths are equal to the pointer Size.
Pointer	displays a triangle with a box and side lengths equal to the pointer Size.
Line	displays a perpendicular line running through the scale background area equal in width to the pointer Line Width.

Line — defines the appearance of the scale pointer line:

Width	is the thickness of the scale pointer in pixels.
Color	specifies the color of the pointer Line that bisects the scale background. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Properties: Design Tab - Scale

Figure 50. The Sliding Scale Gauge Control Properties Dialog Box - Design: Scale Tab
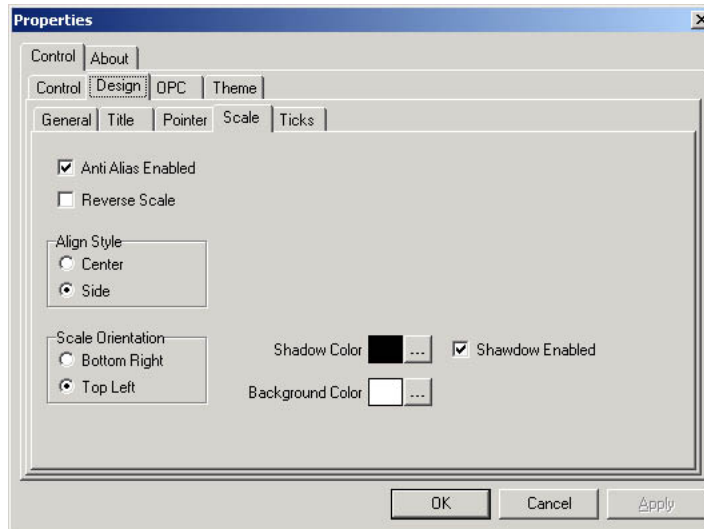
Anti-Alias Enabled — when checked, adjusts the absolute pixel position of the scale ticks and outer margins automatically to eliminate visual artifacts during scale scrolling.

Reverse Scale — when checked, reflects the scale gauge.

Align Style — specifies the alignment of the labels at the tick positions:

Center	aligns ticks to the center of the scale background. This is the best style for labels that are roughly the same size.
Side	aligns ticks to one side of the scale background based on the Orientation specified under the General tab. This is the preferred style when the size of the labels varies.

Scale Orientation — specifies which side of the gauge the tick marks are drawn on:

Bottom Right	places the tick marks on the bottom the scale when its Orientation is Horizontal and on the right side of the scale when its Orientation is Vertical.
Top Left	places the tick marks on the top of the scale when its Orientation is Horizontal and on the left side of the scale when its Orientation is Vertical.

Shadow Color — specifies the shadow color of the scale behind the ticks and the labels. Using this with the Background Color produces a gradient effect for the scale. A dark Shadow Color is recommended (also make sure that all labels and all ticks are the same color) to enhance the 3D appearance. Check Shadow Enabled to create the gradient effect or leave it unchecked to display only a solid Background Color.

Background Color — specifies the scale's background color. Used in conjunction with the Shadow Color, it creates a gradient 3D effect behind the gauge. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Properties: Design Tab - Ticks

Figure 51. The Sliding Scale Gauge Control Properties Dialog Box - Design: Ticks Tab
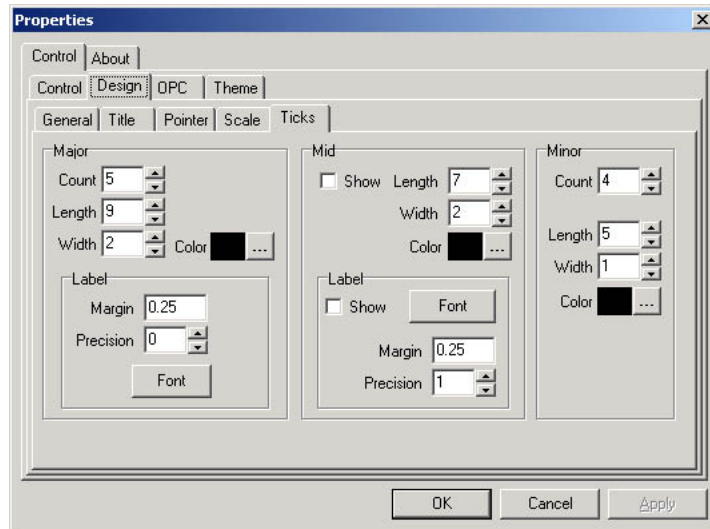
Major: These settings define the major sliding scale tick .

Count — determines the number of Major Ticks displayed. The Count value should be one more than the desired number of major Sections. For example, to show five major Sections, set this field to "6."

Length — specifies the length of the Major Ticks in pixels.

Width — specifies the thickness of the Major Ticks in pixels.

Color — specifies the color of the Major Ticks. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Margin — is the distance between the Major tick labels and the Major ticks in pixels.

Precision — specifies the resolution of the major tick labels. The actual number of decimal places shown depends on the Precision Style setting under the General tab. Enter a zero ("0") to show integers only.

Font — clicking this button displays the Windows Font dialog box, allowing the type of the tick Labels to be defined.

Mid: These settings define the intermediate sliding scale tick .

Show — when checked, displays mid ticks. Middle ticks are those between major ticks that are bold only when the number of minor ticks is an odd value.

Length — specifies the length of the Mid Ticks in pixels.

Width — specifies the thickness of the Mid Ticks in pixels.

Color — specifies the color of the Mid Ticks. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Show Label — when checked, displays the mid tick labels.

Font — clicking this button displays the Windows Font dialog box, allowing the type of the mid tick Labels to be defined.

Margin — specifies the distance between the mid tick labels and the ticks in pixels.

Precision — specifies the resolution of the mid tick labels. Enter a zero ("0") to show integers only.

Minor: These settings define the minor sliding scale tick .

Count — determines the number of Minor Ticks displayed. The Count value should be one less than the desired number of minor Sections. For example, to show five minor Sections, set this field to "4."

Length — specifies the length of the Minor Ticks in pixels.

Width — specifies the thickness of the Minor Ticks in pixels.

Color — specifies the color of the Minor Ticks. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Odometer

The Odometer provides a digital display of floating-point values with a tenth's indicator by default. You can select the number of digits and the precision after the Odometer is created.

Figure 52. Odometer

Properties: Control Tab

Figure 53. The Odometer Control Properties Dialog Box - Control Tab
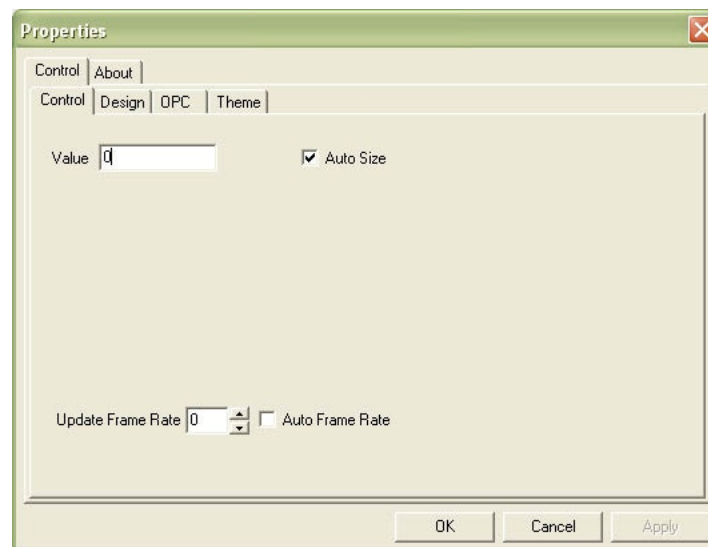
Value — Presets a value to display.

Auto Size — when AutoSize is checked, the overflow indicator is shown (up arrow showing over range and down arrow indicating under range values).

Update Frame Rate — specifies how often the display is refreshed per second following a change. The rate of change per second must be greater than the Update Frame Rate for the desired frame rate to be achieved. The actual number depends on the system hardware, system activity and the number of requests to refresh the gauge.

Auto Frame Rate — when checked, automatically controls the frame refresh rate and can only be activated if the Update Frame Rate is a non-zero number. There must be a steady stream of changes to the gauge that require refreshing for Auto Frame Rate to function correctly.

Properties: Design - General Tab

Figure 54. The Odometer Control Properties Dialog Box - Design: General Tab
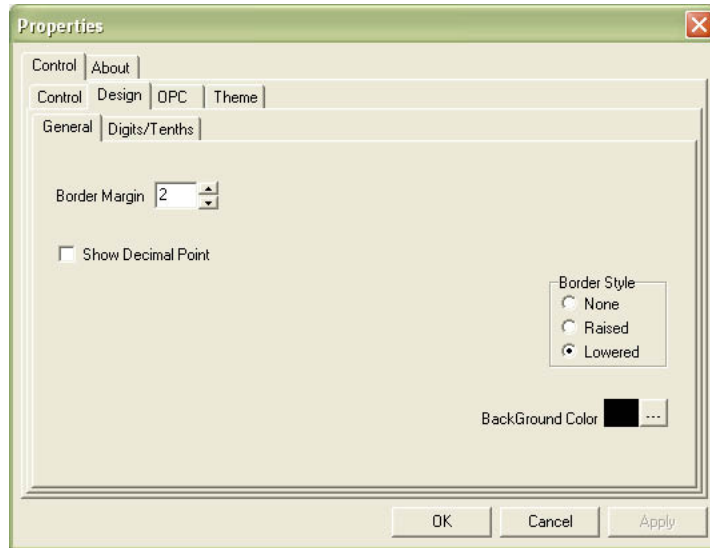
Border Margin — The space between the digits and the ends of the object frame. Increase this value to provide more space between the frame ends and the digits.

Show Decimal Point — when checked, the decimal point is displayed.

Border Style — specifies the appearance of the outer border of the gauge:

None	no border.
Raised	the outer border is raised to provide a beveled 3D look.
Lowered	the outer border is lowered to provide a beveled 3D look.

Background Color — specifies the gauge background color. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Properties: Design - Digits/Tenths Tab

Figure 55. The Odometer Control Properties Dialog Box - Design: Digits/Tenths Tab
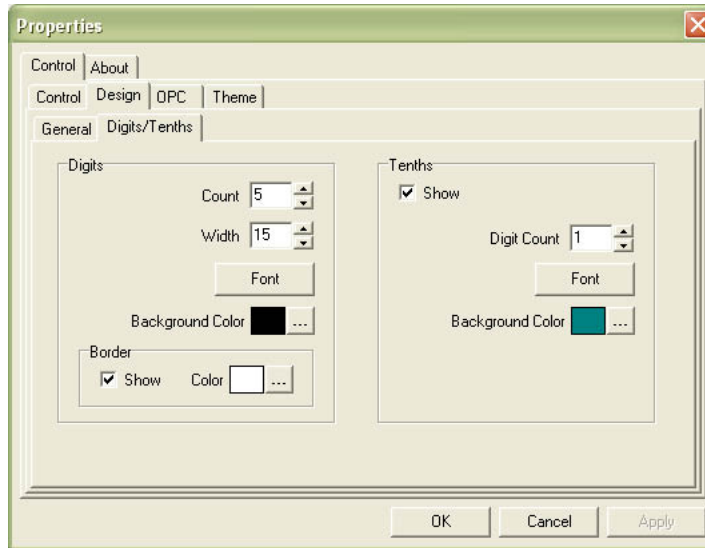
Digits — controls the appearance of digits to the left of the decimal point.

Count — sets the number of digits to the left of the decimal point.

Width — sets the width of the individual digit spaces (the area between the separator lines).

Font — click this to select font , including font family, style, size, and color.

Background Color — sets the background color of the digit spaces.

Border - controls and border around the display and the separator lines.

Show	when checked, the border and separator lines display.
Color	sets the color of the border and separator lines.

Tenths — controls the appearance of digits to the right of the decimal point.

Show — when checked, these digits are shown

Digit Count — the number of digits to the right of the decimal point.

Font — click this to select font , including font family, style, size, and color.

Background Color — sets the background color of the digit spaces.

Static Alarm/Status - State Indicators

LED Arrow

The LED Arrow, depending on which version was selected, either indicates the state or a value from a selected .

Properties: Control Tab

Figure 56. The LED Arrow Control Properties Dialog Box - Control Tab
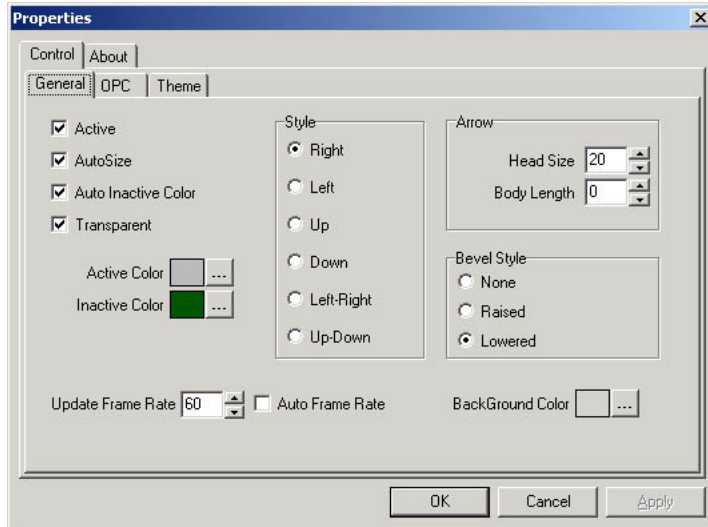
Active — when the control is used to indicate an alarm state, this setting is ignored.

AutoSize — automatically re-scales the LED indicator when the Arrow Head Size and Arrow Body Length properties are changed.

Auto Inactive Color — when the control is used to indicate an alarm state, this setting is ignored.

Transparent — when checked, allows the background image to show through the LED indicator. This option is not supported and may not work in your application.

Active Color —when the control is used to indicate an alarm state, this setting is ignored.

Inactive Color — when the control is used to indicate an alarm state, this setting is ignored.

Style — specifies the appearance of the Arrow LED indicator:

Right	the arrow points right.
Left	the arrow points left.
Up	the arrow points up.
Down	the arrow points down.
Left-Right	the arrows point left and right.
Up-Down	the arrows point up and down.

Arrow: These settings define the arrow of the LED.

Head Size — specifies the size of the arrowhead in pixels. The arrow head will resize automatically when scaled if AutoSize is enabled.

Body Length — specifies the length of the arrow body in pixels. The arrow body will resize automatically when scaled if AutoSize is enabled.

Bevel Style — specifies the appearance of the LED indicator:

None	No border.
Raised	The outer border is raised to provide a beveled 3D look.
Lowered	The outer border is lowered to provide a beveled 3D look.

Update Frame Rate — specifies how often the gauge is refreshed per second following a change. The rate of change per second must be greater than the Update Frame Rate for the desired frame rate to be achieved. The actual number depends on the system hardware, system activity and the number of requests to refresh the LED indicator.

Auto Frame Rate — when checked, automatically controls the frame refresh rate and can only be activated if the Update Frame Rate is a non-zero number. There must be a steady stream of changes to the LED that require refreshing for Auto Frame Rate to function correctly.

Background Color — specifies the LED's background color. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

LED Diamond

The LED Diamond, depending on which version was selected, either indicates the state or a value from a selected .

Properties: Control Tab

Figure 57. The LED Diamond Control Properties Dialog Box - Control Tab
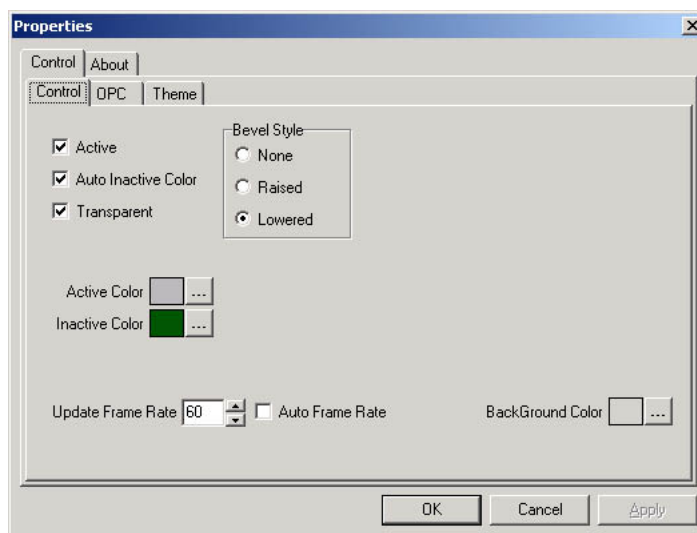
Active — when the control is used to indicate an alarm state, this setting is ignored.

Auto Inactive Color — when the control is used to indicate an alarm state, this setting is ignored.

Transparent — when checked, allows the background image to show through the LED indicator. This option is not supported and may not work in your application

Bevel Style — specifies the appearance of the LED indicator:

None	No border.
Raised	The outer border is raised to provide a beveled 3D look.
Lowered	The outer border is lowered to provide a beveled 3D look.

Active Color — when the control is used to indicate an alarm state, this setting is ignored.

Inactive Color — when the control is used to indicate an alarm state, this setting is ignored.

Update Frame Rate — specifies how often the gauge is refreshed per second following a change. The rate of change per second must be greater than the Update Frame Rate for the desired frame rate to be achieved. The actual number depends on the system hardware, system activity and the number of requests to refresh the LED indicator.

Auto Frame Rate — when checked, automatically controls the frame refresh rate and can only be activated if the Update Frame Rate is a non-zero number. There must be a steady stream of changes to the LED that require refreshing for Auto Frame Rate to function correctly.

Background Color — specifies the LED's background color. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

LED Rectangle

The LED Rectangle, depending on which version was selected, either indicates the state or a value from a selected .

Properties: Control Tab

Figure 58. The LED Rectangle Control Properties Dialog Box - Control Tab
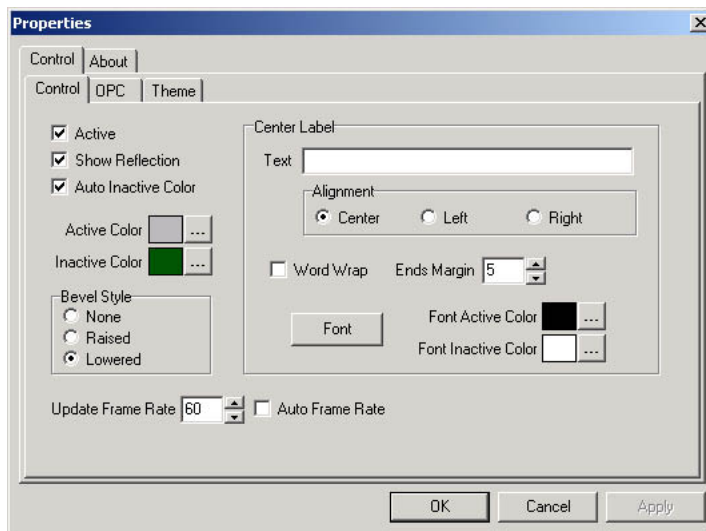
Active — when the control is used to indicate an alarm state, this setting is ignored.

Show Reflection — when checked, displays a reflection in the upper-left corner of the indicator to give the LED a three-dimensional appearance.

Auto Inactive Color — when the control is used to indicate an alarm state, this setting is ignored.

Active Color — when the control is used to indicate an alarm state, this setting is ignored.

Inactive Color — when the control is used to indicate an alarm state, this setting is ignored.

Bevel Style — specifies the appearance of the LED indicator:

None	No border.
Raised	The outer border is raised to provide a beveled 3D look.
Lowered	The outer border is lowered to provide a beveled 3D look.

Center Label: These settings define center label for the LED indicator.

Text — is the label for the LED. Leave this field empty to omit a label.

Alignment — specifies how the label is aligned with respect to the indicator:

Center	aligns the label text to the center point of the LED.
Left	aligns the start of the label with the left edge of the LED.
Right	aligns the end of the label with the right edge of the LED.

Word Wrap — when checked, allows multiple lines for displaying the label text when it is too long in relation to the width of the LED indicator. Unchecked limits the label to a single line. In this case, any text that is too wide for the LED indicator will be truncated in the label display.

Ends Margin — specifies the margins at each end of the Center Label in pixels when Word Wrap is enabled.

Font — clicking this button displays the Windows Font dialog box, allowing the type of the tick Labels to be defined.

Font Active Color — when the control is used to indicate an alarm state, this setting is ignored.

Font Inactive Color — when the control is used to indicate an alarm state, this setting is ignored.

Update Frame Rate — specifies how often the gauge is refreshed per second following a change. The rate of change per second must be greater than the Update Frame Rate for the desired frame rate to be achieved. The actual number depends on the system hardware, system activity and the number of requests to refresh the LED indicator.

Auto Frame Rate — when checked, automatically controls the frame refresh rate and can only be activated if the Update Frame Rate is a non-zero number. There must be a steady stream of changes to the LED that require refreshing for Auto Frame Rate to function correctly.

LED Round

The LED Round object, depending on which version was selected, either indicates the state or a value from a selected .

Properties: Control Tab

Figure 59. The LED Round Control Properties Dialog Box - Control Tab

Active — when the control is used to indicate an alarm state, this setting is ignored.

Show Reflection — when checked, displays a reflection in the upper-left corner of the indicator to give the LED a three-dimensional appearance.

Auto Inactive Color — when the control is used to indicate an alarm state, this setting is ignored.

Transparent — when checked, allows the background image to show through the LED indicator. This option is not supported and may not work in your application

Bevel Style — specifies the appearance of the LED indicator:

None	No border.
Raised	The outer border is raised to provide a beveled 3D look.
Lowered	The outer border is lowered to provide a beveled 3D look.

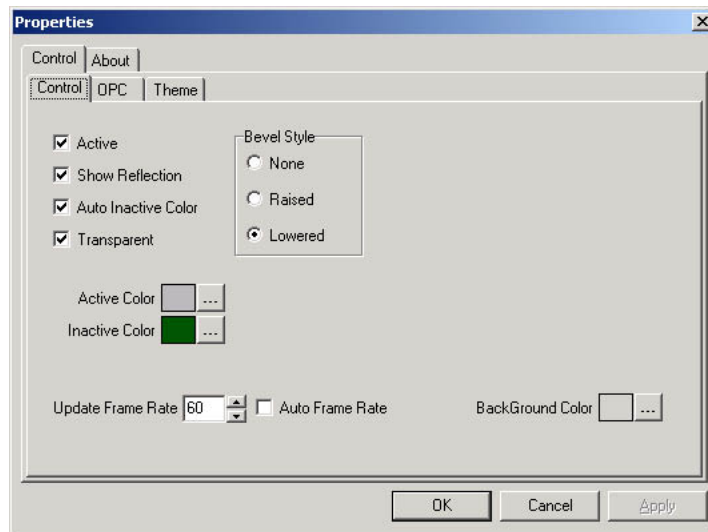Active Color — when the control is used to indicate an alarm state, this setting is ignored.

Inactive Color — when the control is used to indicate an alarm state, this setting is ignored.

Update Frame Rate — specifies how often the gauge is refreshed per second following a change. The rate of change per second must be greater than the Update Frame Rate for the desired frame rate to be achieved. The actual number depends on the system hardware, system activity and the number of requests to refresh the LED indicator.

Auto Frame Rate — when checked, automatically controls the frame refresh rate and can only be activated if the Update Frame Rate is a non-zero number. There must be a steady stream of changes to the LED that require refreshing for Auto Frame Rate to function correctly.

Background Color — specifies the LED's background color. Clicking on the associated ellipsis (…) button allows you to choose a color from the Windows Color palette.

Animated State Indicators

Motor

The Motor object indicates the state of a selected .

Properties: Control Tab

Figure 60. The Motor Properties Dialog Box - Control Tab
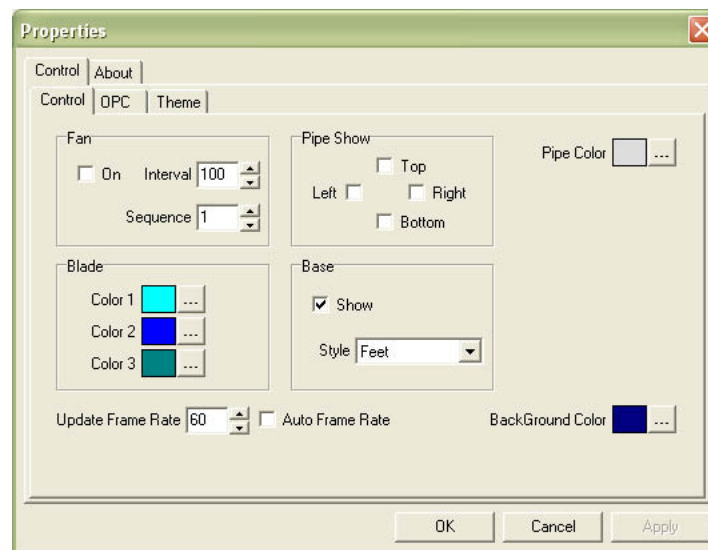
Fan: This controls the fan blade animation.

On — when checked, the animation sequence is active.

Interval — sets the time, in milliseconds, between animation "spin" updates. The larger the value, the slower the apparent movement of the fan blades.

Sequence — specifies the position of the fan blades in the animation sequence. Valid values are 1, 2, and 3. This simply sets the starting position in the spin sequence.

Blade — sets the blade colors for the three sets of blades (Color 1, Color 2, and Color 3).

Pipe Show — sets the pipe connector positions. You can show pipes on any or all four sides.

Base: Controls the display of the motor base.

Show — selects if a base is show.

Style — selects between trapezoid or feet for the base depiction.

Pipe Color — selects the color of the connecting pipes.

Update Frame Rate — specifies how often the gauge is refreshed per second following a change. The rate of change per second must be greater than the Update Frame Rate for the desired frame rate to be achieved. The actual number depends on the system hardware, system activity and the number of requests to refresh the LED indicator.

Auto Frame Rate — when checked, automatically controls the frame refresh rate and can only be activated if the Update Frame Rate is a non-zero number. There must be a steady stream of changes to the LED that require refreshing for Auto Frame Rate to function correctly.

Background Color — specifies the background color for the object frame.

Accelerator Keys and Mouse Gestures

The following short-cuts work for the WebViews Editor's edit mode. When Foreseer is in edit mode, you'll see the **WebViews Editor Editing** message over the Foreseer menu.

Basic

Ctrl+E	Enters edit mode.
Ctrl+S	Saves the layout.
F5	Exits edit mode and discards all changes since last save. The F5 button is the browser Refresh command which causes the current page to be re-loaded.
F6	Enters edit mode or, if in edit mode, saves changes and exits edit mode.

Object Selection

Click	Selects the clicked object and deselects all other selected objects. The selected object will also be the focused object. Clicking outside of any object will deselect all objects. The Background object cannot be selected by any method.
	A selected object is indicated by a highlight border color of dark blue or orange. Blue indicates selected and orange indicates focused. A focused object is always the last object selected and has special meaning for certain commands.
	A focused object is always the last object selected and has special meaning for certain commands. If only one object is selected, then it is by default the focused object. The focused object is generally the object a command applies to such as "make same size as" or "align to top of."
	When a layer is active, all selection commands will act as if only those objects exist; e.g., Ctrl-A for Select All Objects will only select the objects that fall within the defined layer. When new objects are created, their Z-index will be set to the middle of the active layer and the Z-Index Front and Back commands set the selected objects to the front or back of the active layer.
Ctrl+Click	If the object is not selected, it will be added to the current list of selected objects and will become the focused object (the last selected object rule). If the object is selected, but is not the focused object, then this object will become the focused object and the previous focused object will become a normal selected object. If the object is the focused object, it will be deselected.
Alt+Click	Deselects a selected or focused object.
Tab	Select the next (previous if Shift+Tab) object in the document. If no object is selected, the selection will start from the beginning of the document. The document order is the order that objects were created.
Space Bar	If no objects are selected and the cursor is over an object, the object the cursor is over will be selected. If objects are selected, all objects will be deselected. Shift+Space Bar will always select the object under the cursor. If any other objects are selected, this object will be added to the group. .
Ctrl+A	Selects all objects.
Ctrl+Drag	When starting outside of any selected objects, selects objects that the cursor passes over. The drag must start outside of an object and proceed through the object (don't move the mouse too fast). You can Drag in any

arbitrary pattern included doubling back. You can extend selections by Ctrl +Dragging to add new objects.

Ctrl+Dragging any selected object of a group of selected objects moves the entire group of objects.

Drag   When starting outside of any selected objects, this will first deselect all objects and then create a bounding box that will select all objects that are completely contained within its boundary. If the mouse button is released outside of the browser window, the bounding box will be invalidated and you will have to start it over.

Dragging a focused object will move the object (or group of objects if multiple objects are selected). If multiple objects are selected, be careful to drag the focused object. If you attempt to drag one of the selected objects in the group you are in fact just doing a select of that individual object which deselects all other objects. You can Drag a group of selected objects from a non-focused object by using Ctrl+Drag.

Esc   Deselect all selected objects.

View

+=,_-   Zooms in or out by 100% (you do not need the shift key for +). When zooming in, the zoom area will be centered on the tip of the cursor. You may zoom in multiple levels. If the Ctrl key is pressed, the zoom level will be 50% instead of 100%. Be careful when making layout changes while zoomed. Zoom mode is for examining the fine details of object placement. It's always safer to actually move and resize the objects at native (100%) resolution.

Copy and Paste

Ctrl+C   Copy: Copies the selected objects. This only works for copying and pasting objects in the current WebViews page.

Ctrl+V   Paste: Pastes the copied objects 10 pixels to the right and 10 pixels down from their original position. For ActiveX controls, the new object is pasted 30 pixels down and to the right. This only works in the current WebViews page.

Alt+Ctrl+C   Copy: Copies the selected objects. This works for copying and pasting objects in any WebViews page.

Alt+Ctrl+V   Multi-Page Paste: Pastes the copied objects 10 pixels to the right and 10 pixels down from their original position. For ActiveX controls, the new object is pasted 30 pixels down and to the right. This only works in the current WebViews page. The objects can be pasted in any WebViews page.

Layers and Z-Index

F8   Selected objects can be moved to different layers by using the Switch Layer command from the menu or the F8 shortcut. When moving objects to a new layer, their relative position will remain the same in the new layer (i.e., if the selected object has a Z-index of 46 and it is moved to layer 2 it will now have a Z-index of 26).

Shift+layer   All objects in a layer can be hidden by typing Shift+layer number. This command is a toggle so to show the objects, type the same command again. You can hide as many layers as you would like. Unlike the selection layers, the hiding layers do not need to be contiguous. To show all objects, type Shift+0.

Alt+Plus	Z-Index Increment (by one), the selected objects.
Alt+Minus	Z-Index Decrement (by one), the selected objects

Object Creation and Manipulation

C	Create a Channel object. If a Channel object is focused, pressing C repeatedly will cycle through available Channels. The Channel object will be created where the cursor is positioned. If you will be cycling through Channels to find a particular Channel, you may want to resize the Channel object first to make sure that it is large enough to hold the longest Channel name.
F9	The All Channels command will create a Channel object for all Channels that are contained in this folder. The Channel objects will be created in columns starting at the upper left of the window. *Caution: use this with care. Depending on the number of channels assigned to that WebViews page, this command can create more Channel objects than the page can contain (some channel objects spill over into the gray area). Should this occur, cancel edits and do not save.*
F	Create a Folder object. If a folder is focused, cycle through available folders. If you will be cycling through folders to find a particular folder, you may want to resize the folder object first to make sure that it is large enough to hold the longest folder name.
F10	The All Folders command will create a folder object for all sub-folders that are contained in this folder. The folders will be created in a column starting at the upper left of the window.
F2	The All Objects command will create all objects (Channel objects, Folder objects, and Folder Link objects) that are contained in this folder. The objects will be created in columns starting at the upper left of the window.
Date and Time	The Date and Time object. You can set the Date and Time style, which is global and affects all Date and Time objects throughout the layout, with Switch Styles.
Breadcrumbs	The Breadcrumbs command is available from the Layout menu only. By default the breadcrumbs line will display the crumbs as the URL path to the folder that is currently being displayed. To change the crumbs, you may enter specific breadcrumbs text for each folder on the server from the folder properties available at the server.

You can set the Breadcrumbs style, which is global and affects all Breadcrumbs throughout the layout, with Switch Styles. |
Ctrl+L	Create a Horizontal Line. If a Line is focused the line orientation will switch between horizontal and vertical depending on the current orientation. A line object that is linked to an Channel will use the color assignments set by the **One Line Colors** command from the shortcut Menu. If the line is not linked to an Channel, the line can be set to any color using the property editor. Opacity is supported for both linked and unlinked lines and can be set to any value between 0.00 (fully transparent) and 1.00 (fully opaque) in 0.01 steps.
Ctrl+Alt+L	Create a Value Mapped Line. If a Line is focused the line orientation will switch between horizontal and vertical depending on the current orientation. A Value-Mapped line object that is linked to a Channel will use the color assignments set by the Mapping dialog box accessible from the object's properties dialog box. .
Ctrl+Q	Create a Square/Rectangle object. If the object is focused the its orientation will switch between horizontal and vertical depending on the current orientation. A Square/Rectangle object that is linked to an Channel will use the

	color assignments set by the **One Line Colors** command from the Short-cut Menu. If the object is not linked to a Channel, the line can be set to any color using the property editor. Opacity is supported for both linked and un-linked lines and can be set to any value between 0.00 (fully transparent) and 1.00 (fully opaque) in 0.01 steps.
Ctrl+I, Ctrl+M	Create a Static Image. A dialog will be shown for user to select a static image. If a static image is focused, it will be replaced. Otherwise, a new static image will be added to the page.
Ctrl+B, Ctrl+N	Create an Animated Image. A dialog will be shown for the user to select an animated image from the palette. If an animated image is focused, it will be replaced. Otherwise, a new animated image will be added to the page. For animated images (e.g. a breaker), orientations may refer to what edge the poles of the breaker are on (top, bottom, left or right).
Ctrl+Alt+N	Create a Value-Mapped Image. A Value-Mapped Image object that is linked to an Channel will use the color assignments set by the Mapping dialog box accessible from the object's properties dialog box.
Ctrl+T	Create a Text object. To edit the text, double-click inside the text object. When you are done editing the text, click outside the object. A text object may be flipped to/from horizontal/vertical by using the Flip Text Horiz/Vert command, which is available from the Objects shortcut menu. If you need to edit a vertical text object, it's easier to flip it to horizontal, do the editing, and then flip it back to vertical.
Alt+W	Create a Flash animation movie object. A dialog will be shown for user to select a flash animation movie. If a flash movie is focused, the focused one will be replaced. Otherwise, a new flash animation movie will be added to the page.
Ctrl+H	Create a Hyperlink. To edit the label and the URL, double click the hyperlink object to display the property editor. You may leave the label blank. Hyperlinks by default will open the page pointed to in the URL field in the same browser window. Optionally, you can have the link opened in a new window by changing the "Open In" property. When using a separate window, you can specify the window size.
Ctrl+P	Attaches a background image to the page. A dialog will be shown for user to select a background image. If a background image has already been attached to the page, it will be replaced. Otherwise, the new background image will be attached to the page.
.	The Remove Background command is only available through the Objects shortcut menu and will remove a background image from the page
Alt+Y	Switch Style: Changes the style of the selected object. This command is only supported for Channel, Folder, Folder Link, Hyperlink, Line, Text, Breadcrumbs, and Date/Time objects. The Style Selection dialog box containing a list of standard styles for the selected object will be displayed. Select the desired style or customize an existing style. If customizing a style, a name must be entered for this new style.
Y	Apply Style: Applies the style of the focused object to all of the selected objects.
Ctrl+Z	Undo: Reverses the effects of editing operations. This is a multiple level Undo and the Undo buffer can grow quite large after a long editing session. Periodically, you should save your work and exit and re-enter edit mode which will release the memory resources that the Undo buffers have consumed. When using the ActiveX controls, Undo will only restore the size and position information of the control.

Ctrl+Y	Redo: Reverses the effects of the Undo command. Redo is only available after an Undo operation.
Del	Deletes the selected objects.
Ctrl+Space	Launches the linking dialog box.
K	Show Links: Select either an object or an Channel and the press the 'k' key to show links. If an Channel is selected, then the objects linked to that Channel will be selected, if an object is selected, the Channel that the object is linked to (if linked) will be selected.
U	Show Unlinked: Pressing the 'u' key will select all linkable objects that are currently unlinked or are mis-linked. A mis-linked object is an object that is linked to an Channel that is not valid. This can occur due to an Channel being deleted from the WebViews folder that this object was linked to or the Channel or device being deleted from the server. An unlinked object is an object that has not been linked yet.
Left-Click	Left-click on any object will show what it is linked to and other object information in the status bar. The link will show the full Channel name in the '\\server\device\ Channel format for the object. The status bar is at the bottom of the browser. If it is not visible, you can make it visible by going to the browsers View menu and making sure the 'Status Bar' item has a check mark next to it.
Alt+F1	Shows the position of the selected object, its z-index and its Unique ID and other object information in the status bar. The position information is the objects x and y coordinates in pixels relative to the top left of the window being x=0, y=0. The objects width and height in pixels is also displayed along with its z-index. The z-Index determines which object is visible if objects overlap. The higher the z-Index, the closer the object is to the viewer (the more visible it is). For objects with the same z-index, the order the objects are created determines visibility with the newest object being more visible.
Arrow Key	Moves selected objects by one pixel in the direction of the arrow. Ctrl+Arrow moves the objects by 10 pixels.
Ctrl-O	Launches the Change One Line Color dialog box.

Object Layout and Sizing

Alt+Arrow Key	Resizes selected objects by one pixel in the direction of the arrow. Ctrl+Alt+Arrow resizes the objects by 10 pixels.
S	Same Size: Makes the selected objects the same size (width and height) as the focused object. Select any number of objects and then select the object you want the objects to be the same size as the last selection.
W	Same Width: Makes the selected objects the same size in width only as the focused object. Select any number of objects and then as the last selection, select the object you want the objects to be the same width as.
H	Same Height: Makes the selected objects the same size in height only as the focused object. Select any number of objects and then as the last selection, select the object you want the objects to be the same height as.
T	Align Top: Aligns the selected objects with the top of the focused object. Select any number of objects and then as the last selection, select the object to which you want the objects to be aligned.
L	Align Left: Aligns the selected objects with the left side of the focused object. Select any number of objects and then as the last selection, select the object to which you want the objects to be aligned.

B	Align Bottom: Aligns the selected objects with the bottom of the focused object. Select any number of objects and then as the last selection, select the object to which you want the objects to be aligned.
R	Align Right: Aligns the selected objects with the right side of the focused object. Select any number of objects and then as the last selection, select the object to which you want the objects to be aligned.
Shift+H	Align Center Horizontal: Aligns a set of vertically spaced objects with the horizontal mid-point of the focused object. Select any number of objects and then as the last selection, select the object to which you want the objects to be aligned.
Shift+V	Align Center Vertical: Aligns a set of horizontally spaced objects with the vertical mid-point of the focused object. Select any number of objects and then as the last selection, select the object to which you want the objects to be aligned.
A	Space Across: Divides the amount of horizontal (left to right) empty space between the first and last selected objects in a group of objects to make the spacing between all objects in the group even. The left and right-most objects will not be moved, only the objects in between. After executing the space across command, if you find that there is too much or too little space between the objects, just move either the first or last object left or right, select the group again and do another space across.
D	Space Down: Same as Space Across but in the vertical (top to bottom) direction.
Shift+A	Stack Across: Removes all horizontal (left to right) empty space between the first and last selected objects in a group of objects. The left-most object will be the anchor object and will not be moved.
Shift+D	Stack Down: Removes all vertical (top to bottom) empty space between the first and last selected objects in a group of objects. The top-most object will be the anchor object and will not be moved.

Object Properties

Double-Click or P	Displays the property editor for an object. The individual properties vary depending on the object. All objects have the Z-index property (so they can participate in the editing Layer). When the property editor is displayed, clicking on the property will display a short description of the property. Most properties can be edited by typing the value directly. Some properties such as the color of an unlinked line may be edited directly or a Color Picker dialog may be accessed by selecting the **Color Picker** button.

Controls

Alt+Z	Displays the controls menu. Controls are ActiveX objects that can be gauges, dials, digital displays, and LEDs. Controls behave differently than other objects for property edit purposes. Right-click a Control object to set the various control Channels. Double-click the object to set its Properties.

Javascript Scripting
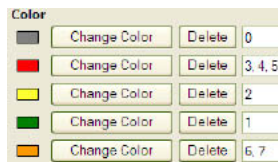
Advanced Value Mapping

A Value Mapped Bus (Line) object can be linked to a Channel and then have various Channel values mapped to colors. You can also map values from a linked Channel to individual images in a Value Mapped Image object set. Normal mapping, done through a dialog box, is covered in detail in the section called "Value Mapped Images (Ctrl+Alt+N)" [25] and the section called "Value-Mapped Bus (Line) (Ctl-Alt-L) " [29]. Through custom Javascript that you create, you can map ranges of values to a color or image, or even cause objects to blink in response to a color. The ability to map objects via Javascript is called "Advanced Mapping."

To use Advanced Mapping for Bus (Line) Objects:

1. Double-click the Bus (Line) element.

2. In the **Line Properties** dialog box, click the Mapping button.

3. In the **Value Mapping** dialog box, select the **Advanced** radio button.

The dialog box that appears has an editing area in which you can type JSON or Javascript code. Actually, when you create value mapping in Normal Mapping mode, you're creating JSON scripting. You can view that scripting by creating some mapping relationships with Normal selected and then clicking the Advanced radio button.
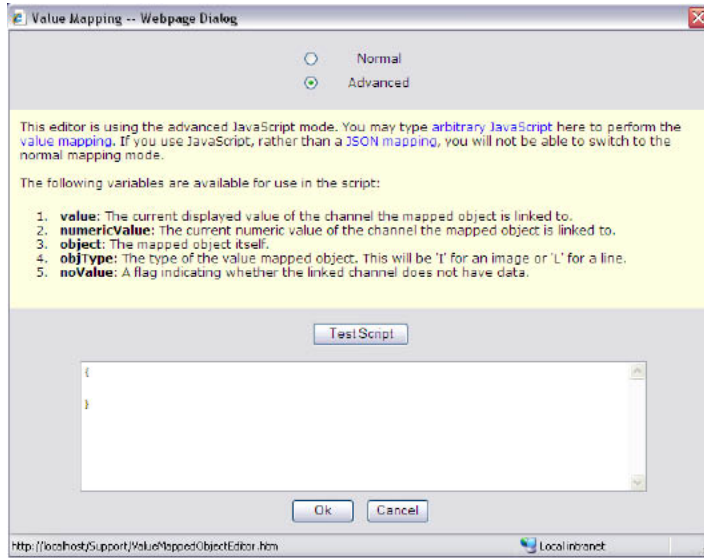
Figure 61. Normal mapping as seen from the dialog box...

Figure 62. ...and as JSON, when viewed after selecting the Advanced radio button.

{"f808080":[0],
"fff0000":[3,4,5],
"ffffff33":[2],
"green":[1],
"ffff9900":[6,7]}

Figure 63. The advanced Value Mapping dialog box, with the editing area for scripting.

Predefined Variables

To help you in scripting, we've defined several variables:

value.   A pre-defined variable that contains the current value of the linked Channel. In JSON, the value provided by an Channel can either be numeric or a string and it won't matter. However, for Javascript the value variable is always treated as a string. If the Channel returns numeric values, you must instead use the numericValue variable. For example, the following Javascript uses the value variable to map the line color to green if the value equals the string "Open":

if (Value == "Open");{"green";}

While string matching is not case sensitive for JSON, it is for Javascript. The example shown a little further in this chapter explains how to make your Javascript case-insensitive.

numericValue.   A pre-defined variable that contains the current value of the linked Channel. This variable expects that the value from Channel will be numeric (either an integer or float). For example, the following Javascript uses the numericValue variable to map the line color to green if the numeric value is less than 3:

if (numericValue < 3);{"green";}

object.   A pre-defined variable that references the mapped object (Bus (Line) or Image). For example:

else{object.style.backgroundColor = "red";}

noValue.   A flag, indicating that the linked Channel currently has no data. This is useful in stopping some visual behavior, such as blinking. Take a look at the complex example at the end of this chapter for an example.

imagen.   This variable refers to the various images that are part of a mapped animated image set. The n is 0 through 9, and corresponds directly to the last character of the file-name, which must be 0 though 9, for each image in the animated image set. So, if the images in a particular set are big_relay_0.png through big_relay_2.png, image1 would select

big_relay_1.png for display. For more information about animated image naming conventions, see ???.

objType . Returns the type of value mapped object, with values of I (image) and L (line). Should you wish to create a complex, generalized script that can be shared between image and line objects, this pre-defined variable provides a way to differentiate between the types of value mapped objects,

Understanding Values Returned from an Channel

Channels return different values, depending on the nature of the Channel. To write code that can map these values you need to know:

- Is the value a set of strings or is it numeric?

- If it's a set of strings, what are they?

- If it's numeric, what's the range?

You can, when you have a working system with devices connected, verify the actual output values for Channels in your WebViews pages. Simply view these in the Web Application in Monitor mode. Switch to List View and look in the Value column.

Using JSON

JSON is nothing more than a simple format for structuring data. For example, the following shows a fairly typical value mapping dialog box, and the JSON that it actually creates. As long as you restrict your mapping to JSON syntax, you can switch between normal and advanced modes and edit your mapping relationships in either.

If you're comfortable working with JSON, it provides a fast way to set up mappings. Also, you can cut-and-paste JSON to quickly define identical mappings for multiple objects. If you'd like to learn more about JSON, visit the www.json.org website.

Note

Your JSON cannot be preceded by a Javascript comment. This applies to the double slash (//) that precedes a single-line comment or the /*...*/ that delimits multi-line comments.

1. Using Javascript

Note

The following instructions do not attempt to teach the Javascript scripting language and assume that you are already familiar with Javascript. If not, the World Wide Web Consortium, through their affiliated W3Schools website, offers an excellent Javascript tutorial along with a complete Javascript reference. You can access this by pointing your web browser to http://www.w3schools.com/js/default.asp.

When writing scripts for Value Mapped Bus (Line) objects, you will usually map colors and visual Channels (such as blinking) to Channel values via Javascript comparisons, which can be combined with operators for more advanced functions. For mapped animated images, you're mapping the Channel values to one of a series of related images. In both cases, the snippet of Javascript is usually a single If...else if...else statement that provides the selection criteria. Just using these three simple Javascript components provides a lot of capability.

Note

Once you've typed Javascript into the script field, you can't return to normal mode for that mapping (unless you delete your Javascript). The dialog box has no way of

displaying the complex mappings possible from Javascript, instead it's simply an interface for creating JSON.

A couple of things to keep in mind when creating your Javascript.

- Colors must be in quotes. For example: "yellow";

- You must use curly braces around code blocks for conditionals. All of the examples in this chapter follow this convention.

An Example Using Comparisons

The following simple example maps the input from an Channel to three colors. It creates complex comparisons, such as checking if a value is greater than or equal to 0 and less than 10.

```
if ( numericValue >= 0 && value < 10 ) { "green"; } else if ( numericValue < 15 ) { "yellow"; } else { "#ff0000";
}
```

Note that the colors can be either predefined HTML color names, such as "green" or "yellow," or they can be hexadecimal RGB color values.

A Mapped Image Example using Text Values

In this example, the Channel is providing its status as text values, such as "Normal" and "Alarm." Such values can be matched with the "is equal to" comparison. Also, this example is using the imagen predefined variable, and is mapped to the images in the set with a trailing _0 and _1 in their filenames.

By using value.toLowerCase() instead of value in your comparisons, you can force all of the strings to lower case, therefore making them insensitive to case. However, you must match on the lower-case version of the string (that is, "normal" instead of "Normal") for this to work.

if (value.toLowerCase() == "normal") { "image0"; } else if (value.toLowerCase() == "alarm") { "image1"; }

A Complex Example

The following example is quite a bit more complex, but does show the power of scripted mapping. In this example, the Value Mapped Bus (Line) object will appear as solid green if the Channel value is 0, but will blink red if the value is 1. You can cut-and-paste this example from the PDF file into the script editor.

```
function timerFunction()
{
    if ( object.blinkVisible )
    {
        object.style.backgroundColor = "transparent";
    }
    else
    {
        object.style.backgroundColor = "red";
    }

    object.blinkVisible = !object.blinkVisible;
}

if ( noValue || numericValue === 0 )
{
    if ( object.timerId )
    {
```

```
                    clearInterval( object.timerId );
                    object.timerId = null;
        }

            object.hasBeenSetup = false;
        }
        else if ( !object.hasBeenSetup )
        {
            object.blinkVisible = true;
            object.hasBeenSetup = true;
            object.timerId = setInterval( timerFunction, 500 );
        }

        if ( numericValue === 0 )
        {
            "green";
        }
        else
            {object.style.backgroundColor;
        }
```

Checking Your Script

The script editing dialog box has a simple syntax checking tool. To use it, simply click the Test Script button. If it detects a syntax error, a pop-up box explaining the error and providing its location will appear. If there are no problems found, an alert box stating "No errors found" will appear.

The syntax checking tool will not flag an error if you use the value variable for numeric value comparisons or the numericValue variable for string value comparisons. However, this will provide unpredictable results in your value mapping script.

What if Something Goes Wrong?

It is possible to write Javascript code that can create a condition from which the WebViews client can't recover. For example, you could inadvertently create code that causes an "endless loop." To fix that, you can edit the XML file that defines that WebViews page and either repair or delete the Javascript that's causing the problem.

The various WebViews files are contained in a directory tree in either of these directories:

`C:\Program Files\Eaton Corporation\Foreseer\WWW\WebViews\` (Windows XP or Windows Server 2003)

`C:\Program Files (x86)\Eaton Corporation\Foreseer\WWW\WebViews\` (Windows 7 or Windows Server 2008)

This is the default directory, and the location on your system may be different. Each WebViews page in the hierarchy corresponds to a directory in this tree.

To edit the Javascript in the XML file, navigate the directory tree until you find a directory with a name that matches the WebViews name in the WebViews tree. Contained within that directory is a file called `layout.xml`. Using your favorite text editor, open that file. You'll see your Javascript embedded in the file, similar to the following. Note the use of character entities.

```
<Layout plot='0' ctrl='0' ver='3'>
<I_000_ pos='0:0:1259:863:0' src='/Support/images/page/StartImage.png'/>
<I_001_ pos='633:234:56:49:50' src='/Support/images/anime/brkr3_1.jpg' valueMapping=''/>
<I_002_ pos='440:134:41:38:50' src='/Support/images/anime/gendown_1.gif'/>
<I_003_ pos='881:335:56:49:50' src='/Support/images/anime/brkr3_1.jpg' valueMapping=''/>
<O_004_C pos='290:115:20:20:89' cls='xObjLedRound' cid='clsid:0A362353-2E5E-11D3-85BF-00105AC8B715' \
cb='/support/isDigitalLibrary.cab'>
<p n='BackGroundColor' v='2147483663'/>
<p n='Active' v='-1'/>
```

```
<p n='ActiveColor' v='8738181'/>
<p n='BevelStyle' v='1'/>
<p n='BorderStyle' v='0'/>
<p n='Visible' v='-1'/>
<p n='Enabled' v='-1'/><p n='ShowReflection' v='-1'/>
<p n='AutoInactiveColor' v='-1'/>
<p n='InactiveColor' v='21760'/>
<p n='Transparent' v='-1'/>
<p n='UpdateFrameRate' v='60'/>
<p n='OptionSaveAllProperties' v='0'/>
<p n='AutoFrameRate' v='0'/>
</O_004_C>
<L_005_ pos='686:318:50:4:50' cls='0' a='1' c='' valueMapping=''/>
<L_006_ pos='696:328:50:4:50' cls='0' a='1' c='' valueMapping=''/>
<L_007_ pos='743:408:50:4:50' cls='0' a='1' c='' valueMapping=' if ( value == &quot;Normal&quot; )\
&#13;&#10; {&#13;&#10; &quot;image0&quot;;&#13;&#10; }&#13;&#10; else if ( value == &quot;Alarm&quot; )\
&#13;&#10; {&#13;&#10; &quot;image1&quot;;&#13;&#10; }'/> </Layout>
```

CSS Files

Cascading Style Sheets (CSSs) allow the advanced designer to encode page styles that are applied to particular objects. The WebViews Editor is supplied with a set of predefined styles so that you can create quality layouts without requiring extensive web knowledge. The Custom Styles capabilities further enhance your ability to alter the look of various layout objects. However, some properties can only be changes by creating a user-defined CSS file. Also, editing the CSS files gives you considerable control of the look of objects either throughout your web or on a particular page. The alterable styles include:

- Alarm state colors
- Alarm background colors
- Alarm Notification dialog box display
- Alarm suppression time
- Annunciation of an alarm notification sound
- Active Alarms page style
- Breadcrumbs style
- Date and Time style
- Time Source (server or client)
- One-Line style
- Default line thickness
- Folder object style
- Hyperlink object style
- Line object style
- Channel object styles
- Text object styles
- Update and Timeout rates
- Breadcrumbs source
- Alarm Count object styles
- Edit Mode styles and default colors

The default style sheet for Internet Explorer is the file `style_ie.css` located in one of these folders:

`C:\Program Files\Eaton Corporation\Foreseer\WWW\Support` (Windows XP or Windows Server 2003)

`C:\Program Files (x86)\Eaton Corporation\Foreseer\WWW\Support` (Windows 7 or Windows Server 2008)

Do not edit the default style sheet. Instead, create a new file named `user_style_ie.css` and place it in the same folder. The new style sheet will cascade, or load, before the default style sheet such that any style in the `user_style_ie.css` file that has the same name as

the (default) `style_ie.css` style sheet will take priority. Any style override will apply to all pages.

Use discretion when modifying styles. You can change a style in a rule or add a style to a rule, but if you delete a style the default style sheet will again take precedence. When in doubt, create a new class in the style sheet. All object styles have 20 default styles available (Style 0–19). These default styles are visible through the **Switch Styles** (Alt+Y) command. Some styles have default values and some are empty (refer to the `style_ie.css` file). All styles starting at "20" and higher (e.g., `class Cod20` for channel objects and `Text20` for text objects) are reserved for internal use and should never be overridden or modified.

If you have to adjust styles for a particular page, you can place a modified file named `page_style_ie.css` in its folder located in the `WWW/WebViews/page` folder. The `page_style_ie.css` file will apply only to that specific page and will cascade after `style_ie.css` and `user_style_ie.css`, respectively.

Changing the Default Thickness of Line (Bus) Objects

When creating one-line diagrams, the default line thickness may not match connection lines on graphics. While you can always resize every line as you create them; however, this can become tedious. Instead, you can change the default line thickness for new line and bus objects. The following style in the `user_style_ie.css` file sets the line thickness.

```
#DefaultLineThickness {z-index:4;}
```

Note that the default thickness is four pixels. Change the line thickness value to match the lines in your graphics (a little experimentation will probably be required).