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Introduction

The **AlarmWorX32 Report ActiveX** allows reporting (user-configured or pre-configured) and graphing of alarms. The source of the Alarm data is alarms previously logged by the Alarm Logger. The Alarm Report is an ActiveX, allowing it to be placed in any ActiveX container application, including GraphWorX32, Visual Basic, or a Web page.

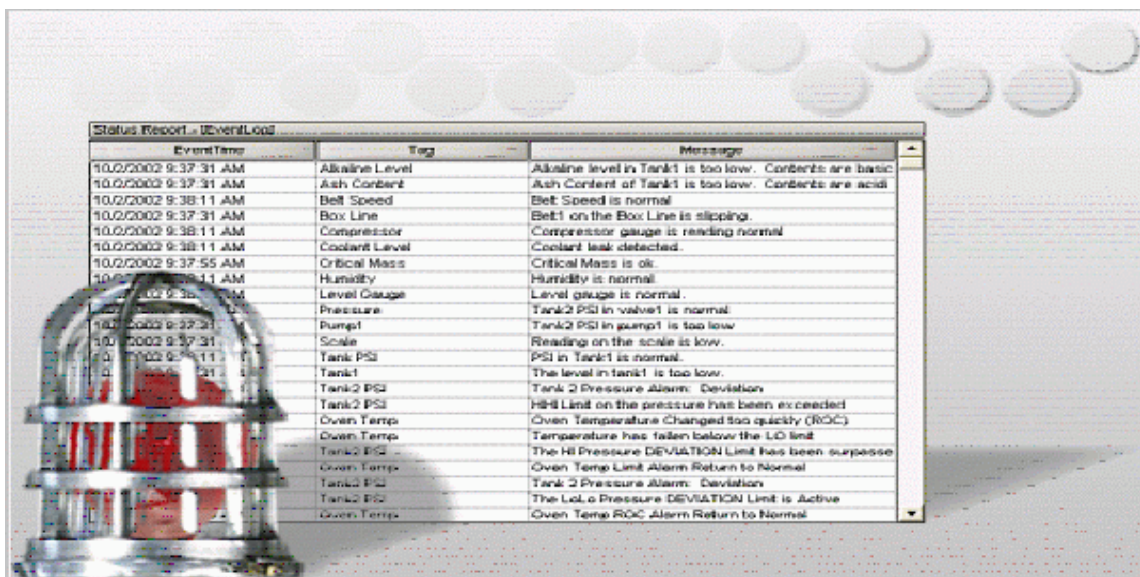
Inserting the ActiveX Into a Display

To insert the AlarmWorX32 Report ActiveX, choose **Insert Object** from the **Edit** menu, or click the **AlarmWorX32 Report ActiveX** button on the **ActiveX** toolbar, as shown in the figure below.



AlarmWorX32 Report ActiveX Button on the ActiveX Toolbar

The AlarmWorX32 Report ActiveX is inserted into the display, as shown in the figure below.



AlarmWorX32 Report ActiveX

Configuration

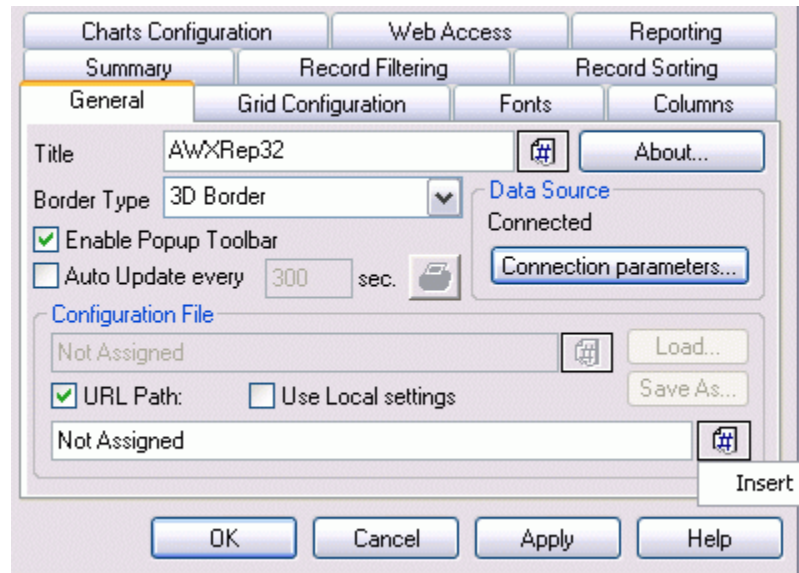
To start the configuration of the Report ActiveX, double-click the ActiveX. This opens the **Alarm Report ActiveX Properties** dialog box for the ActiveX. Use these property pages to configure how alarms will be reported (appearance, organization, etc.) and which report type will be used.

See Also

[General](#)
[Columns](#)
[Grid Configuration](#)
[Charts Configuration](#)
[Fonts](#)
[Records Sorting](#)
[Record Filtering](#)
[Reporting](#)
[Summary](#)
[Web Access](#)

General

The **General** tab of the **Alarm Report ActiveX Properties** dialog box, shown below, allows you to specify the name of the report file, select the border type and connect to a data source.



Report ActiveX General Tab

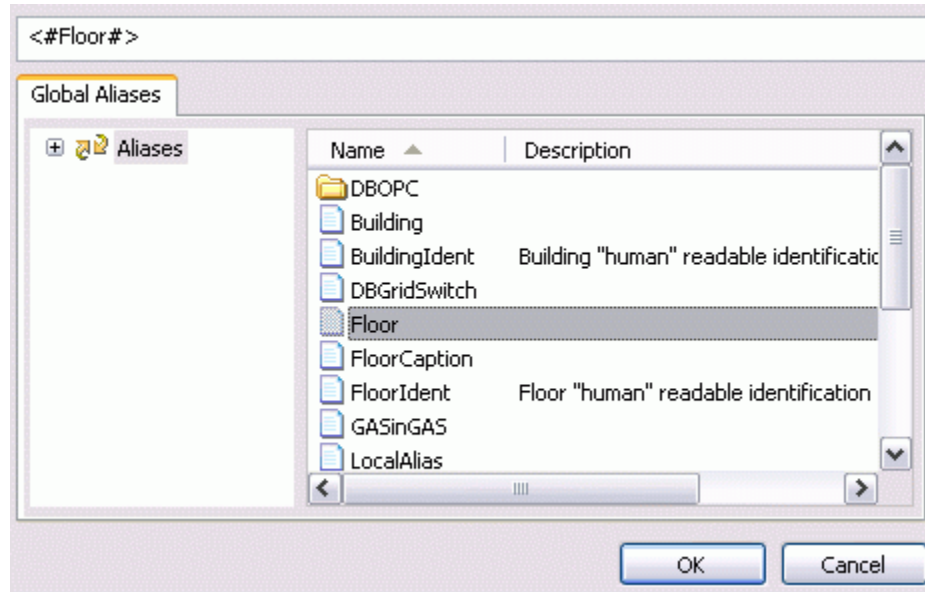
Configure the following **General** tab settings:

- **Title:** Enter a title for the report.
- **About:** Clicking the **About** button displays both technical support information and the About Box, which contains registration and serial number information as well as system resource information, such as memory and disk space available.
- **Border Type:** Select one of the following border types for the report from the drop-down list: None, Flat, or 3-dimensional.
- **Enable Popup Toolbar:** When this option is checked, the Report toolbar is available during runtime mode.
- **Auto Update:** Specifies the frequency (in seconds) at which the alarm report updates data from the Alarm Logger database.
- **Configuration File:** By default, information is stored as part of the container application's document file. You can also store information as part of a separate (.awr) file. To save the .awr file, click **Save As** to open the **Save AWXReport32 Configuration Info** dialog box. Enter a name for the .awr file in the **File Name** field, and then click **Save**.

You can also open an existing configuration file by clicking the **Load** button on the **General** tab and browsing for the file. If Configuration File is selected, the Report ActiveX will attempt to load from the file listed under **File name**. If **URL Path** is checked, the ActiveX will use the specified network URL path upon loading the file.

Note: The ActiveX cannot be saved to a URL path. To create a URL file, save a report configuration to a local file and copy the file to the desired network location.

You can also select aliases to use for the configuration file. Clicking the # button and selecting **Insert Global Alias** from the pop-up menu opens the Global Aliases tab of the Unified Data Browser, as shown in the figure below. Select a global alias from the Unified Browser, which includes all global aliases in the global alias database. This eliminates the need to manually type in the alias name. All global aliases that are configured in the Global Alias Engine Configurator are conveniently available to choose from inside the browser. The tree control of the Global Alias Engine Configurator is mimicked in the tree control of the Global Alias Browser. Select a global alias by double-clicking the alias name (e.g. "Floor" in the figure below). The alias name appears at the top of the browser, which automatically adds the <# and #> delimiters to the alias name. Click the **OK** button.



Selecting an Alias From the Global Alias Browser

- **Data Source:** Clicking the **Connection parameters** button opens the **Database Connection** dialog box, where you can specify an alarm logger database. See "Connecting to a Data Source" below.
- **Auto Print:** The Auto Print feature is available only when the **Auto Update** feature is enabled. Reports are printed automatically on the same time interval specified for the auto update. Thus, if the Auto Update is set for 300 seconds, then reports will be automatically printed every 300 seconds.

Clicking the printer button opens the **Auto Print Settings** dialog box, as shown in the figure below. Check the Enable Auto Print feature check box. If you use the **Default Printer** for your system, you can specify the page orientation and number of copies. If you choose an alternate device under **Selected Devices**, you must click on the printer buttons to the right to configure the settings for each device.

The options available under **What to Print?** depend on your database connection and whether you have configured any Crystal Report Designs in the **Reporting** tab of the **Alarm Report ActiveX Properties** dialog box.

Note: If the Crystal Report Engine is not installed on the local machine, then auto print for Crystal Reports will not work on that machine.

Auto print settings

☒ Enable Auto Print feature

Print to devices:

☒ Default Printer Orientation: ☒ Portrait Number of Copies: 1

☐ Selected Devices: ☐ Landscape

<unspecified> [Printer Icon]

☐ <unspecified> [Printer Icon]

☐ <unspecified> [Printer Icon]

☐ <unspecified> [Printer Icon]

☐ <unspecified> [Printer Icon]

What to print?

☒ Current Grid / Chart View ☐ Crystal Report - Design #3

☐ Crystal Report - Design #1 ☐ Crystal Report - Design #4

☐ Crystal Report - Design #2 ☐ Crystal Report - Design #5

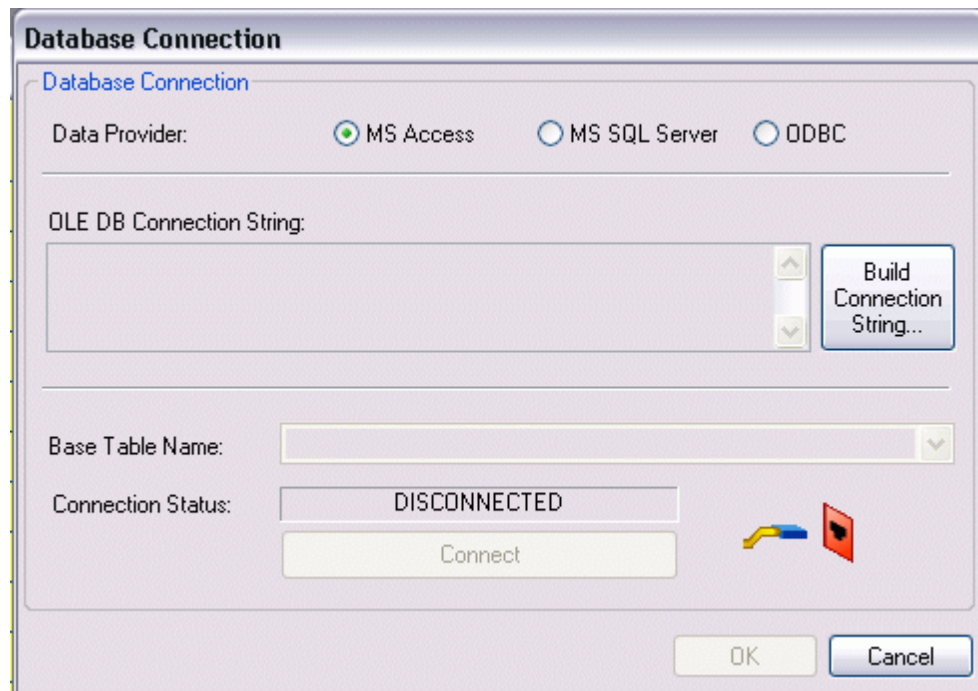
OK Cancel

Configuring Auto Print Settings

Connecting to a Data Source

To connect to a data source:

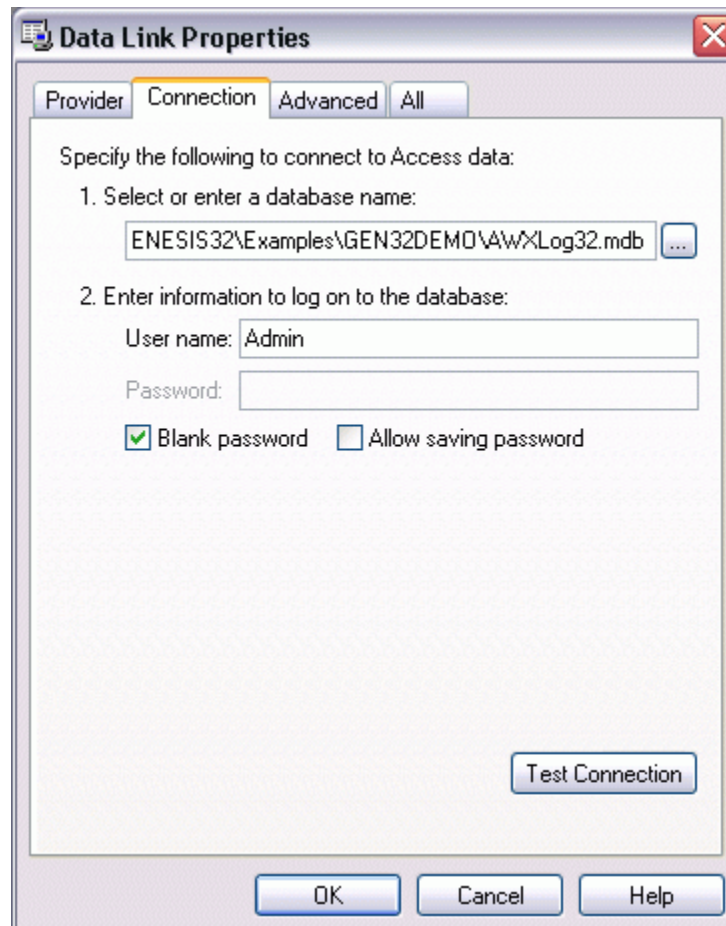
1. Click the **Connection parameters** button. This opens the **Database Connection** dialog box, as shown below.
2. Under **Data provider**, select from Microsoft Access, Microsoft SQL Server, or ODBC (Open Data Base Connectivity), as shown in the figure below.



Connecting to a Database

3. Click the **Build Connection String** button. This opens the Microsoft **Data Link Properties** dialog box, as shown in the figure below. In the **Connection** tab specify the data source and then click **OK**.

Note: All data source connections are made through the **Data Link Properties** dialog box. The **Connection** tab settings may vary depending on which data provider you selected. Click the **OK** button. Click the **Help** button at any time to view the Microsoft Data Link help documentation.



Specifying a Data Source

4. The data source reference appears in the **Database Connection** dialog box in the **OLE DB Connection String** field, as shown below. The **Base Table Name** field lists the tables in the database. You can select a specific table from the drop-down list to use as the reference table for the database.
5. Click the **Connect** button to connect to the database. The traffic light icon changes to green when the connection is successful, as shown in the figure below.

Database Connection

Database Connection

Data Provider: ☒ MS Access ☐ MS SQL Server ☐ ODBC

OLE DB Connection String:

Provider=Microsoft.Jet.OLEDB.4.0;Password='';Data Source=C:\Program Files\ICONICS\GENESIS32\Examples\GEN32DEMO\AWX\Log32.mdb;Persist Security Info=True

Build Connection String...

Base Table Name: EventLog

Connection Status: **CONNECTED**

Disconnect

OK Cancel

Database Connection

Columns

In the **Columns** tab of the **Alarm Report ActiveX Properties** dialog box, shown below, you can specify which columns will appear in your alarm report. By default, the following three items are included in the report: EventTime, Tag, and Message, as shown in the **Selected** list in the figure below.

Note: For more information about column types, event types and attributes, please see the AlarmWorX32 Viewer, AlarmWorX32 Server, and AlarmWorX32 Logger documentation.

Summary Record Filtering Record Sorting

Charts Configuration Web Access Reporting

General Grid Configuration Fonts Columns

Available:

Column Name
[AckComment]
[Acked]
[ActorID]
[Area]
[ChangeMask]
[ConditionActive]
[ConditionName]
[ConditionType]
[EventTime]
[Tag]
[Message]

Add -> Add Exp... <-Remove Config...

Selected:

Header Text	Column Name
EventTime	[EventTime]
Tag	[Tag]
Message	[Message]

OK Cancel Apply Help

Report ActiveX Columns Tab

By clicking the **Add** and **Remove** buttons in the middle of and the "up" and "down" arrows on the right side of the **Columns** tab, you can select which columns to include in the report as well as indicate the order of their appearance. To move an item from the **Available** list to the **Selected** list, simply highlight the item and click the **Add** button. To move an item back from the **Selected** list to the **Available** list, highlight the item and click the **Remove** button. To change the order of an item in the **Selected** list, simply select the item and click the "up" and "down" arrows located on the right-hand side.

You can also change the appearance of a column by either double-clicking on an item in the **Selected** list or selecting the item and clicking the **Config...** button. The **Set Column** configuration dialog for the item opens, as shown below. From this dialog, you can set the font, color, width, and cell properties by selecting and changing the various options available.

The **Set Column: Summary** dialog box is divided into four main sections:

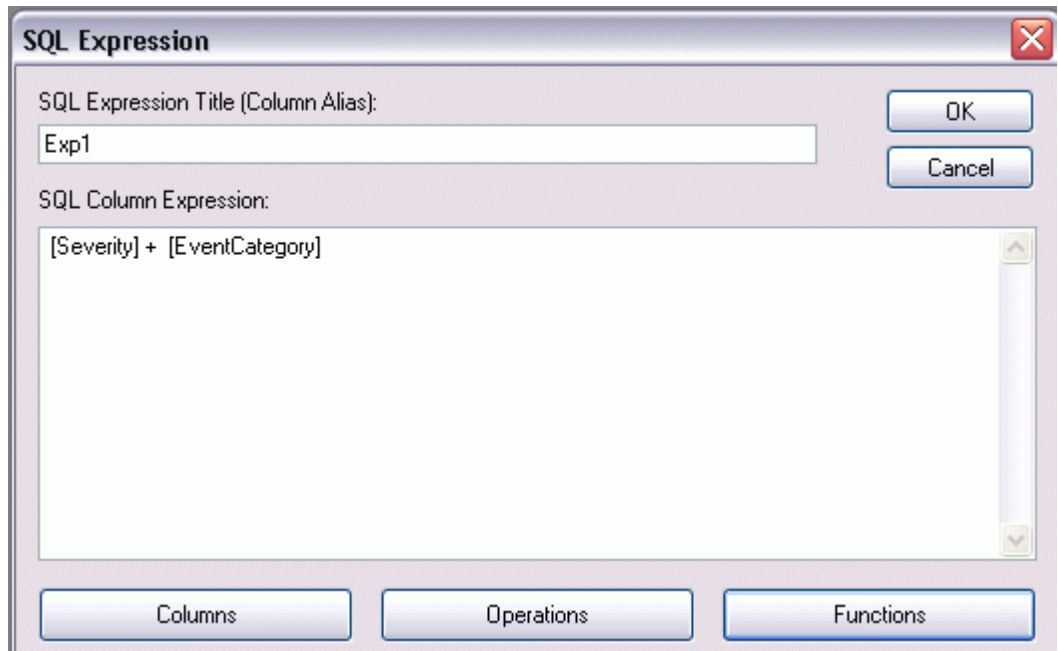
- Fonts:** Contains two checkboxes: **Modify Font:** (with a text field set to "Arial, 8 pt." and a **Set Font** button) and **Modify Header Font:** (with a text field set to "Arial, 8 pt." and a **Set Header Font** button).
- Column:** Contains a **Width:** text field set to "150" and a **Title Justify:** dropdown menu set to "Center".
- Colors:** Contains two checkboxes: **Modify Text Color:** (with a black color swatch) and **Modify Background Color:** (with a yellow color swatch).
- Cells:** Contains a checkbox for **Modify Cells Properties:**, a **Cell Justify:** dropdown menu set to "Left", and a **Wrap text** checkbox.

At the bottom right, there are **OK** and **Cancel** buttons.

Columns Configuration Dialog

Adding SQL Expressions to Columns

You can also add custom columns to your alarm reports using expressions. Clicking the **Add Exp** button in the middle of the **Columns** tab opens the **SQL Expression Builder**, as shown in the figure below. Click the **Columns**, **Operations**, and **Functions** buttons to edit your expressions. When you click **OK**, your custom column will be added to the **Selected** list in the **Columns** tab. **Note:** Please refer to the Microsoft SQL language documentation for details about SQL expressions.

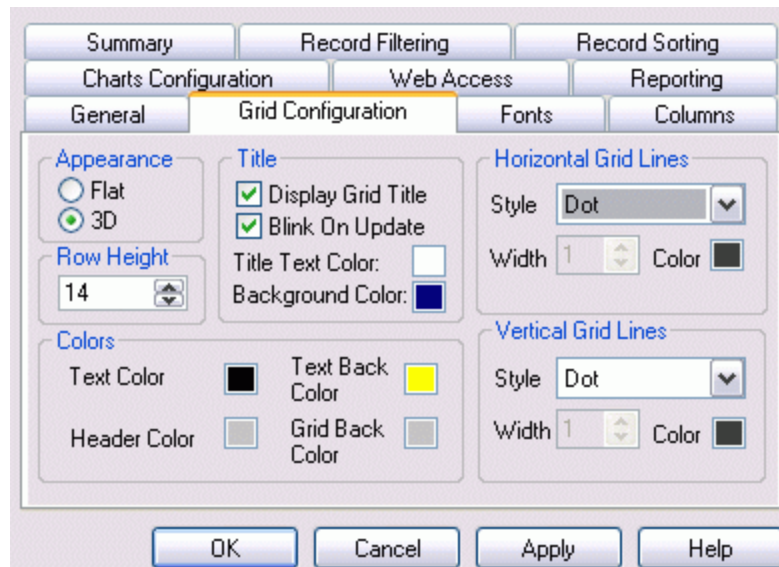


The **SQL Expression** dialog box is used to define a new SQL expression. It features a title bar with a close button. The main area contains two text boxes: "SQL Expression Title (Column Alias):" with the value "Exp1" and "SQL Column Expression:" with the value "[Severity] + [EventCategory]". To the right of these boxes are "OK" and "Cancel" buttons. At the bottom, there are three buttons: "Columns", "Operations", and "Functions".

SQL Expression Builder

Grid Configuration

The **Grid Configuration** tab of the **Alarm Report ActiveX Properties** dialog box, shown below, determines how the grids on your alarm report will look and act.



The **Report ActiveX Grid Configuration Tab** is part of the **Alarm Report ActiveX Properties** dialog box. It has a tabbed interface with tabs for "Summary", "Record Filtering", "Record Sorting", "Charts Configuration", "Web Access", "Reporting", "General", "Grid Configuration" (selected), "Fonts", and "Columns". The "Grid Configuration" tab is active, showing settings for "Appearance", "Title", "Horizontal Grid Lines", "Vertical Grid Lines", and "Colors".

- Appearance:** Radio buttons for "Flat" and "3D" (selected). A "Row Height" spinner is set to 14.
- Title:** Checkboxes for "Display Grid Title" and "Blink On Update" (both checked). "Title Text Color" is white, and "Background Color" is dark blue.
- Horizontal Grid Lines:** "Style" is "Dot", "Width" is 1, and "Color" is black.
- Vertical Grid Lines:** "Style" is "Dot", "Width" is 1, and "Color" is black.
- Colors:** "Text Color" is black, "Text Back Color" is yellow, "Header Color" is grey, and "Grid Back Color" is grey.

At the bottom are "OK", "Cancel", "Apply", and "Help" buttons.

Report ActiveX Grid Configuration Tab

Configure the following grid settings:

- **Appearance:** Choose either a 3-dimensional grid or a flat grid.

- **Row Height:** Specifies the space between horizontal grid lines.
- **Colors:** Specifies colors for the grid text, headers, and background.
- **Title:** To show the grid title on the report, check the **Display Grid Title** check box. When **Blink on Update** is checked, the grid title will blink each time the report is updated with new data from the Alarm Logger database. You can also specify the color for both the title text and background.
- **Grid Lines:** Both **Horizontal** and **Vertical** grid lines appear on the alarm report. You can specify the **Width**, **Style** (e.g. Solid, Dashed, etc.), and **Color** of the grid lines. To change the color of the grid lines, simply click the **Color** check box and select a color from the color palette.

Note: It is not necessary to have grid lines, but it is helpful in distinguishing between different records.

Charts Configuration

The **Charts Configuration** tab of the **Alarm Report ActiveX Properties** dialog box, shown below, refers to the chart that will be generated from the report data. The settings in the **Charts Configuration** tab determine how the chart will appear in runtime mode. To access the report chart, enter runtime and click the **Chart Summary** button. For more details on this runtime feature please see the Runtime - Chart Summary section.

Report ActiveX Charts Configuration Tab

Configure the following chart settings:

- **Chart Type:** Select one of two types of chart: **Bar** or **Pie**.
- **Background Color:** Set the background color for the chart (the color that will surround the chart) and the chart's title.
- **Title/Plot/Legend:** You can toggle the visibility of chart title and/or legend by checking or unchecking **Display Title** or **Display Legend**, respectively.

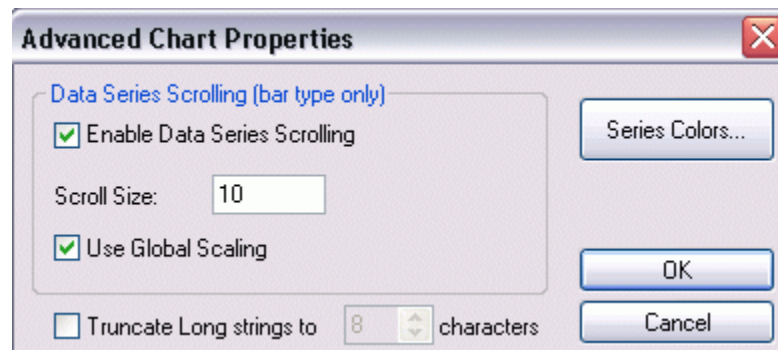
You can also set the exact positions and sizes of chart elements (title, plot, and legend). The positions are determined by values in the **Left** and **Top** fields, and sizes for particular chart elements are set in the **Height** and **Width** fields. The positions and sizes are given in the percentage of full width and height of chart area, assuming that the coordinate origin (0,0) is located in the top left corner of the chart. For example, setting Left=50, Top=50, Height=50, Width=50 for the chart legend will position legend in the lower right

quadrant of the chart area.

If **Update Title On Series Select** is checked, the chart's title text will be updated when you click on any data series (either bar or pie segment) of the plot object. A name of the selected data series will be included with the title text. This mode is particularly useful when the chart legend is hidden.

- **Advanced Chart Options:** Clicking the **Advanced Chart Options** button opens the **Advanced Chart Properties** dialog box, as shown in the figure below. If your alarm records contain long strings of data, you can abbreviate the strings by checking **Truncate Long strings to "X" characters**. Then specify the maximum number of string characters to be displayed (in place of the "X").

For bar charts, checking **Enable Data Series Scrolling** allows you to scroll across the bars in the chart. The number of bars in the scrolling region is determined by the **Scroll Size**. When scrolling is enabled for bar charts, you have the option of using global scaling.



Advanced Chart Properties

Clicking the **Series Colors** button opens the **Chart Series Colors** dialog box, which enables you to define a custom color for each data item in the chart series.

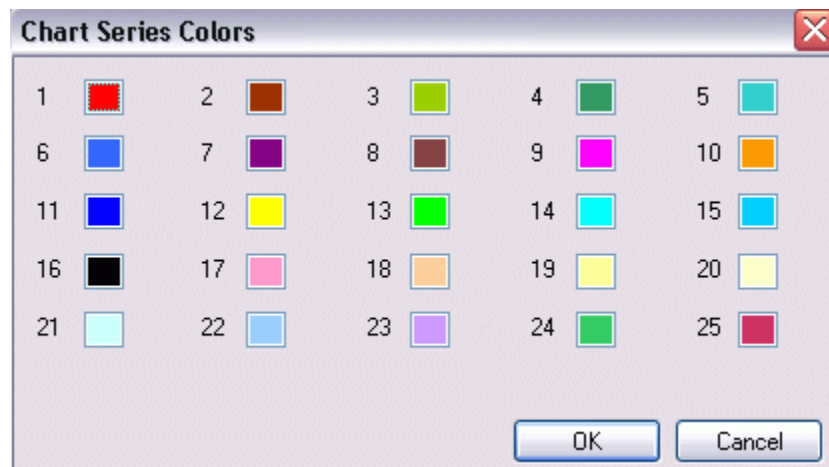
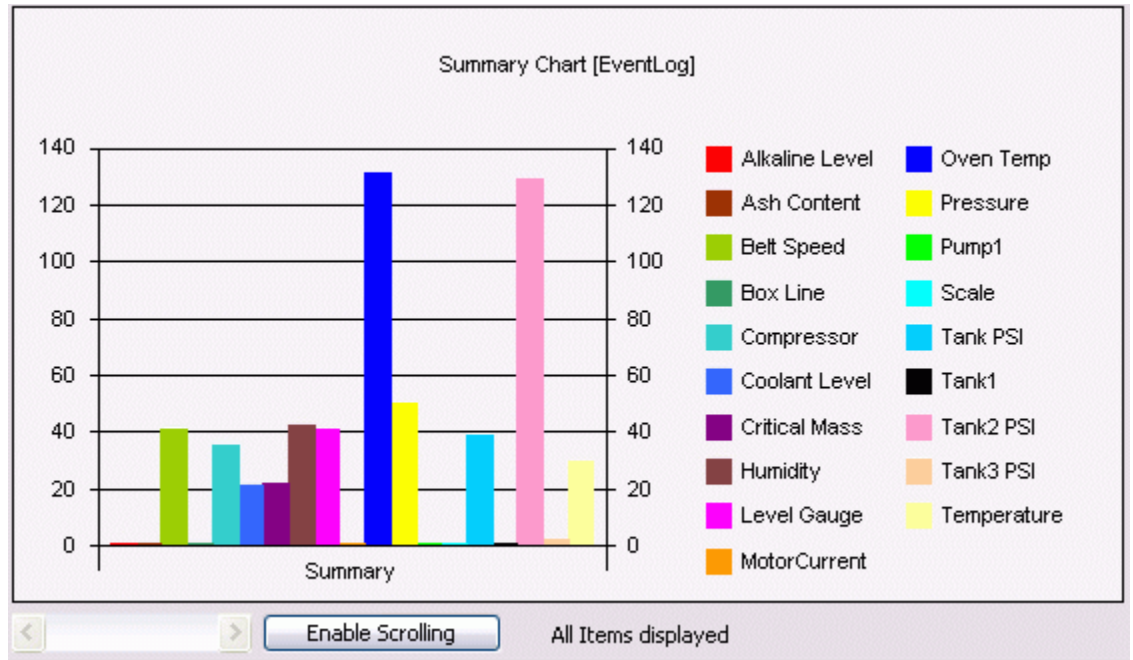


Chart Series Colors

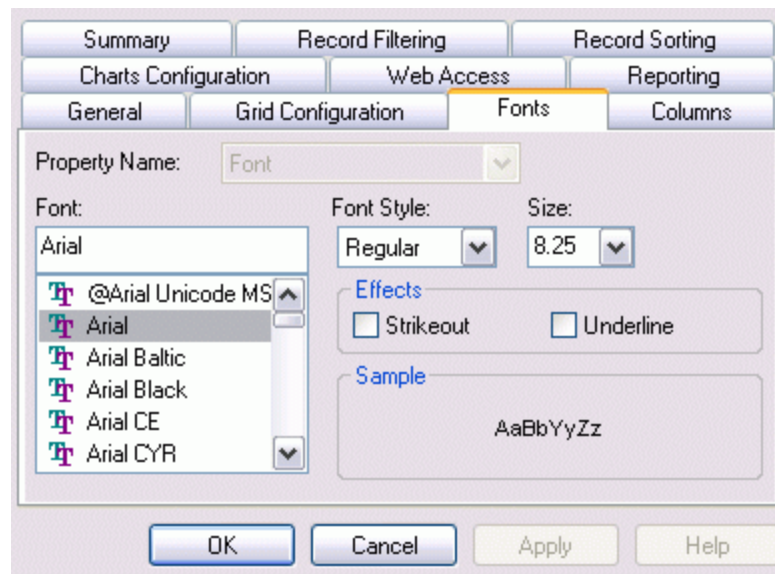
If scrolling is enabled, an **Enable Scrolling** button appears at the base of the bar chart summary in runtime mode, as shown below. Click this button to scroll left or right between bars on the chart using the arrows.



Bar Chart Summary

Fonts

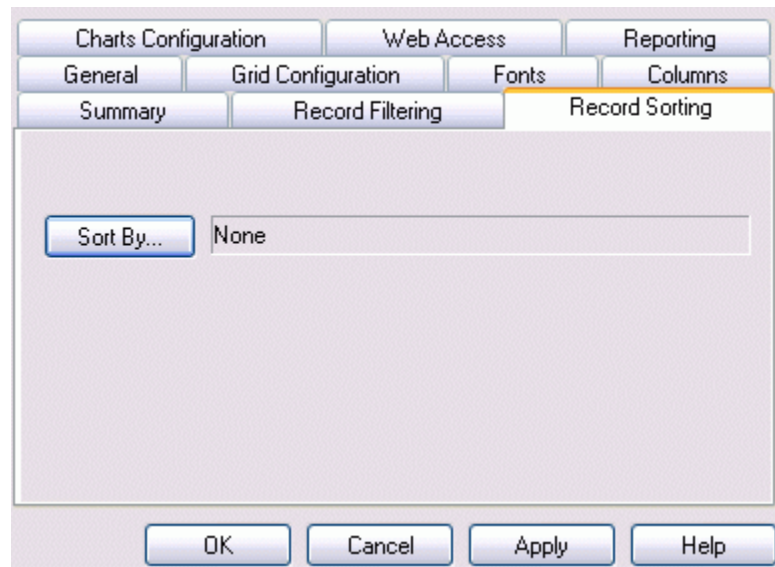
The **Fonts** tab of the **Alarm Report ActiveX Properties** dialog box, shown below, specifies the font size, style, and text effects (i.e. underline and strikethrough) for the alarm report.



Report ActiveX Fonts Tab

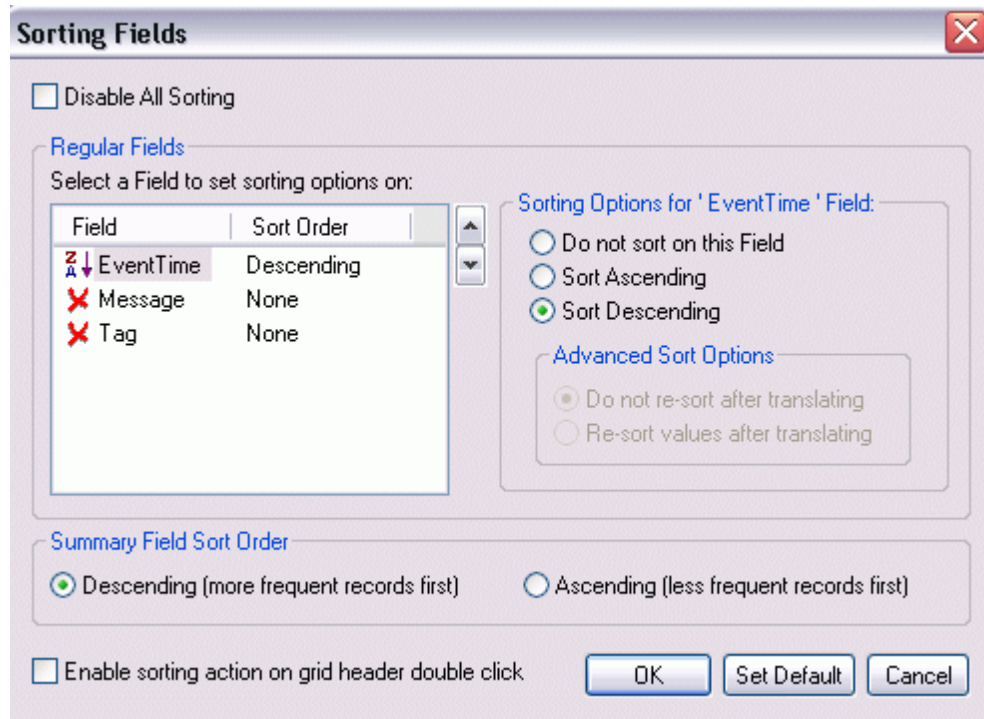
Record Sorting

The **Record Sorting** tab of the **Alarm Report ActiveX Properties** dialog box, shown below, has just one button: the **Sort By** button.



Report ActiveX Records Sorting Tab

Clicking the **Sort By** button opens the **Sorting Fields** dialog box, as shown in the figure below. You can choose whether to disable or enable sorting by leaving the **Disable All Sorting** check box checked or unchecked. If you choose to leave this box unchecked, then several sorting options are available. Here you will specify the priority by which the fields in the alarm report are sorted.



Sorting Fields Dialog Box

To change the priority by which the fields will be displayed, highlight a field and then click the **Move Up/Move Down** buttons. The order of the columns under **Field** indicates their priority level.

To determine the order in which the data will be displayed within each column, highlight that column and select one of the following sorting options:

- **Do Not Sort on This Field:** Leaves the data unsorted.
- **Sort Ascending:** Sorts the data in the column in ascending order (i.e. from least to greatest)
- **Sort Descending:** Sorts the data in the column in ascending order (i.e. from greatest to least)

All elements will be sorted by the first category in the list. In the event that two elements in the first category are identical, the reported alarms are sorted by the criteria configured for the next item in the list.

If you are dealing with language translations, you have the option of resorting values after translating them. This option is for advanced users and is not recommended for scenarios where there is a large set of records after filtering.

You can also set the **Summary Field Sort Order** (see Runtime - Data Grid and Chart Summary) for more information on the summary field) by selecting **Descending** or **Ascending**.

If the **Enable sorting action on grid header double-click** check box is selected, then you have the option of double-clicking the header of each column in the report while in runtime to toggle between ascending and descending sorting for the selected column.

Note: You can also access the **Sorting Options** dialog box via the **Sort Alarms** button on the **AWXRep32** toolbar while in runtime mode. (Double-click anywhere in the ActiveX client box to show the **AWXRep32** toolbar.)

Record Filtering

The **Record Filtering** tab of the **Alarm Report ActiveX Properties** dialog box, shown below, offers simple filtering options for the alarm report. You can filter by date, by tag, or by custom SQL statements.



Reports ActiveX Record Filtering Tab

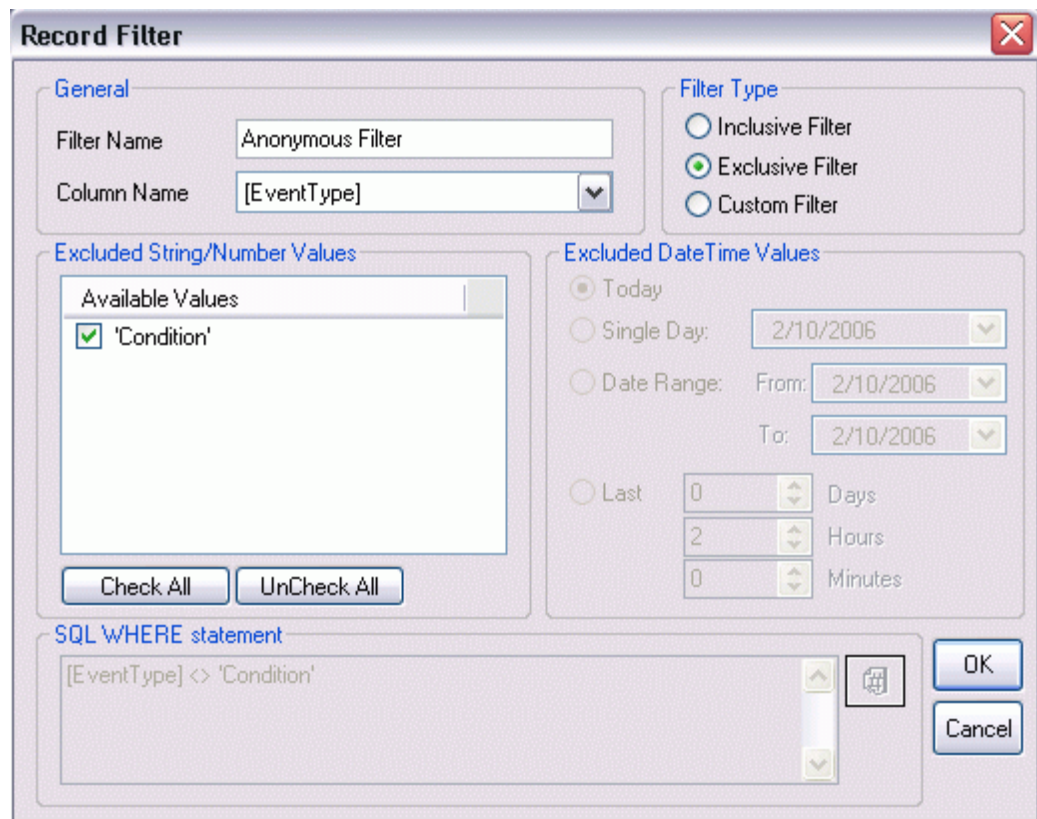
All of the items checked in the **Available Filters** list box are used as criteria for determining which alarms/events are displayed on the grid in runtime. If the **Display active filter name(s) on grid's**

title bar check box is selected, then the names of the filters that are checked will appear on the grid's title bar while in runtime.

The default configuration of AlarmWorX Report ActiveX includes the following example filters, which are displayed in the **Record Filtering** tab of the **Alarm Report ActiveX Properties** dialog box, as shown in the figure above:

- **Only Alarms:** The AlarmWorX32 Report ActiveX grid displays only alarms from the connected database.
- **Only Events:** The AlarmWorX32 Report ActiveX grid displays only events from the connected database.
- **Only Today's Records:** The AlarmWorX32 Report ActiveX grid displays only data from the connected database that occurred on the current day.

To configure a filter, either click the **Add Filter...** button to set a new filter or select an existing filter and click the **Config Filter...** button to modify the filter. Either action opens the **Record Filter** dialog box, shown below.



The **Record Filter** dialog box is used to configure filtering criteria. It contains the following sections:

- General:**
 - Filter Name:** Anonymous Filter
 - Column Name:** [EventType]
- Filter Type:**
 - ☐ Inclusive Filter
 - ☒ Exclusive Filter
 - ☐ Custom Filter
- Excluded String/Number Values:**
 - Available Values:** A list box containing 'Condition' with a checked checkbox.
 - Buttons:** Check All, UnCheck All
- Excluded DateTime Values:**
 - ☒ Today
 - ☐ Single Day: 2/10/2006
 - ☐ Date Range: From: 2/10/2006 To: 2/10/2006
 - ☐ Last: 0 Days, 2 Hours, 0 Minutes
- SQL WHERE statement:**
 - Text area containing: [EventType] <> 'Condition'
 - Buttons: OK, Cancel

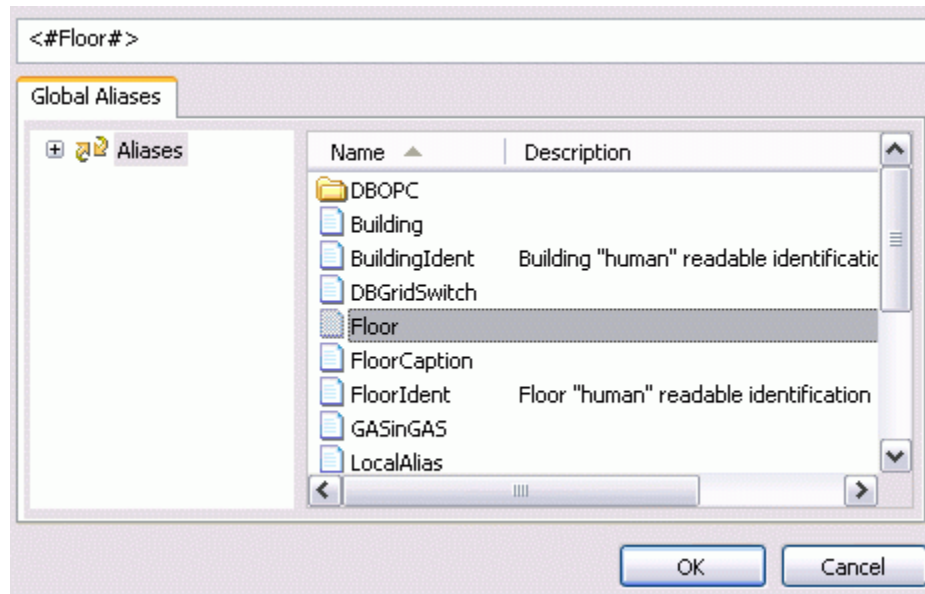
Record Filter Dialog

The decision of whether to use string/number values or date/time ranges for filtering depends on the column selected in the **Column Name** drop-down list. If **[EventTime]** is selected from this list, then a date/time range specified in the **Included Date/Time Values** field is used for the filtering criteria. For any other **Column Name** selection, the string/number values that are checked in the **Available Values** list box are used for the filtering criteria. You will notice, as you select different values for **Column Name** that the list of available values in the list box changes.

Three types of filtering are available:

- **Inclusive Filter:** If an inclusive filter is used, then the alarm conditions that meet the criteria set by the items selected in the **Available Values** list box or the alarms appearing within the time range specified in the **Included Date/Time Values** field pass through the filter and are displayed in the alarm report grid in runtime.

- **Exclusive Filter:** If an exclusive filter is used, then the matching alarms do not pass through the filter and are not displayed in runtime.
- **Custom Filter:** If custom filtering is used, then you have the option of typing a **SQL WHERE statement** in the text box at the bottom of the dialog box to specify what type of values can pass through the filter. You can also select a global alias to use in the SQL WHERE statement. Clicking the # button opens the **Global Alias Browser**, shown below, which allows you to choose from a list of aliases in the Global Aliasing System Engine.

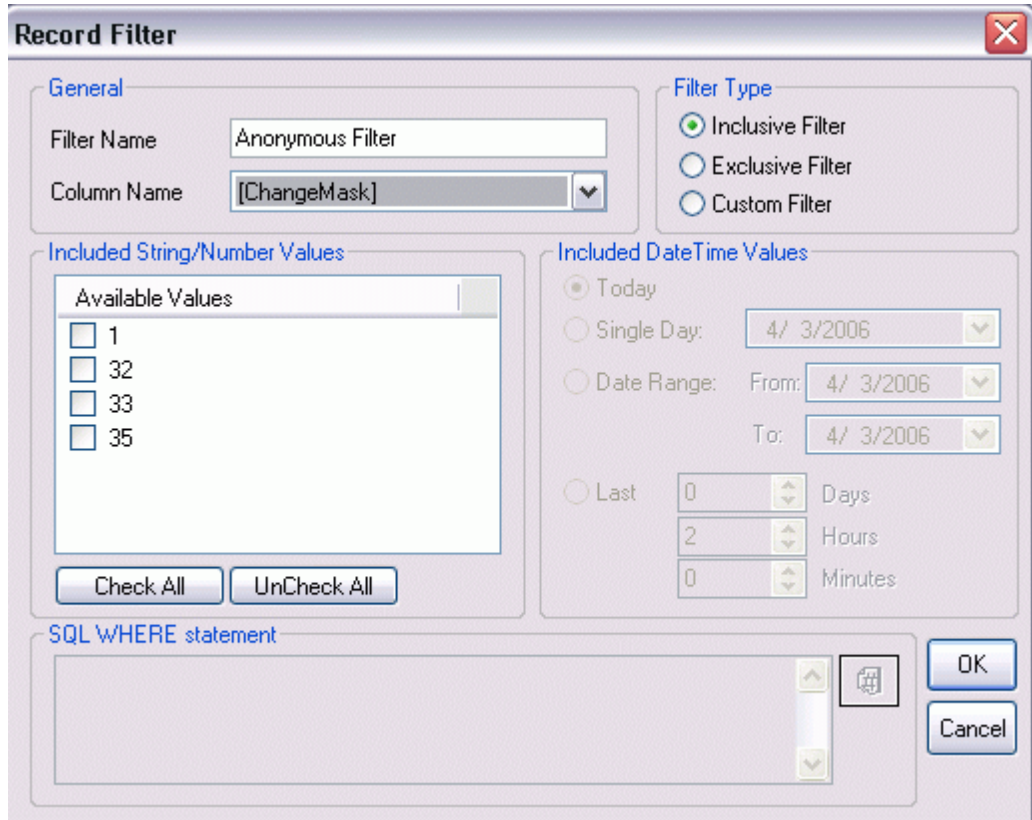


Selecting Global Aliases From the Unified Browser

ChangeMask Filter

If you select **[ChangeMask]** from the **Column Name** drop-down list in the **Record Filter** dialog box, as shown in the figure below, the bitmasking condition values (states) are as defined below:

- CHANGE_ACTIVE_STATE 0x0001 => 1
- CHANGE_ACK_STATE 0x0002 => 2
- CHANGE_ENABLE_STATE 0x0004 => 4
- CHANGE_QUALITY 0x0008 => 8
- CHANGE_SEVERITY 0x0010 => 16
- CHANGE_SUBCONDITION 0x0020 => 32
- CHANGE_MESSAGE 0x0040 => 64
- CHANGE_ATTRIBUTE 0x0080 => 128



Record Filter

General

Filter Name: Anonymous Filter

Column Name: [ChangeMask]

Filter Type

☒ Inclusive Filter

☐ Exclusive Filter

☐ Custom Filter

Included String/Number Values

Available Values:

- ☐ 1
- ☐ 32
- ☐ 33
- ☐ 35

Check All UnCheck All

Included DateTime Values

☒ Today

☐ Single Day: 4/ 3/2006

☐ Date Range: From: 4/ 3/2006 To: 4/ 3/2006

☐ Last: 0 Days, 2 Hours, 0 Minutes

SQL WHERE statement

OK Cancel

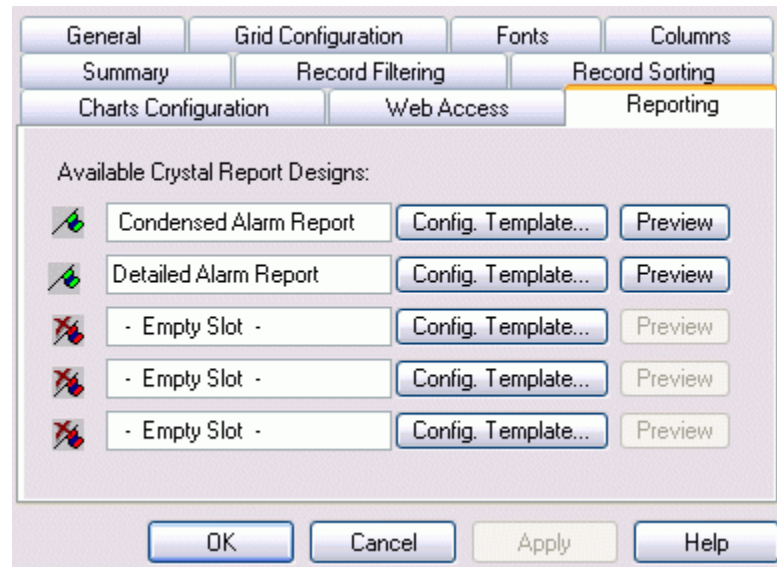
ChangeMask Filter Configuration

The available values for ChangeMask can range from 0 to 128 (representing the sum of all condition values). From the bitmasking states above, we can derive the following information from the ChangeMask.

- 0 - Condition transitioned from ACTIVE to INACTIVE (0)
- 4 - Condition ENABLED is TRUE (4)
- 9 - Condition QUALITY has changed and is ACTIVE (8+1)
- 35 - Sub-condition change: ACKED and ACTIVE (32+2+1)
- 41 - Sub-condition change: QUALITY changed and is ACTIVE (32+8+1)
- 59 - Sub-condition change: SEVERITY changed, QUALITY changed, ACKED and ACTIVE (32+16+8+2+1)

Reporting

The Report ActiveX Control uses Seagate Crystal Reports for versatile, neat, and easy-to-manage alarm reports. From the **Reporting** tab of the **Alarm Report ActiveX Properties** dialog box, shown below, you can configure templates for Crystal Reports. Clicking the **Preview** button next to any configured template launches Crystal Reports and displays a sample report matching the criteria set in the template configuration.



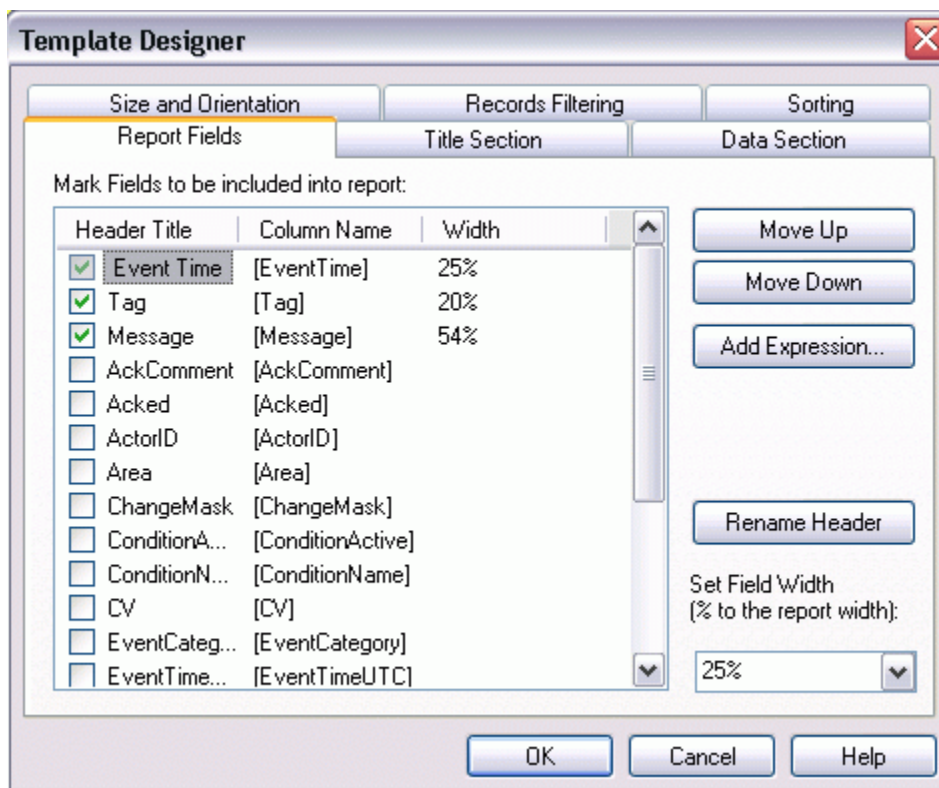
Alarm Report ActiveX Reporting Tab

Clicking on any of the **Config. Template...** buttons opens the Template Designer dialog box, which contains the following tabs:

Report Fields
Title Section
Data Section
Size and Orientation
Records Filtering
Sorting

Report Fields

As the **Template Designer** dialog box opens, it defaults to the **Report Fields** tab, shown below. Here you can configure which alarm columns to report, the order in which they are to be reported, and the amount of space each category will take on the report.



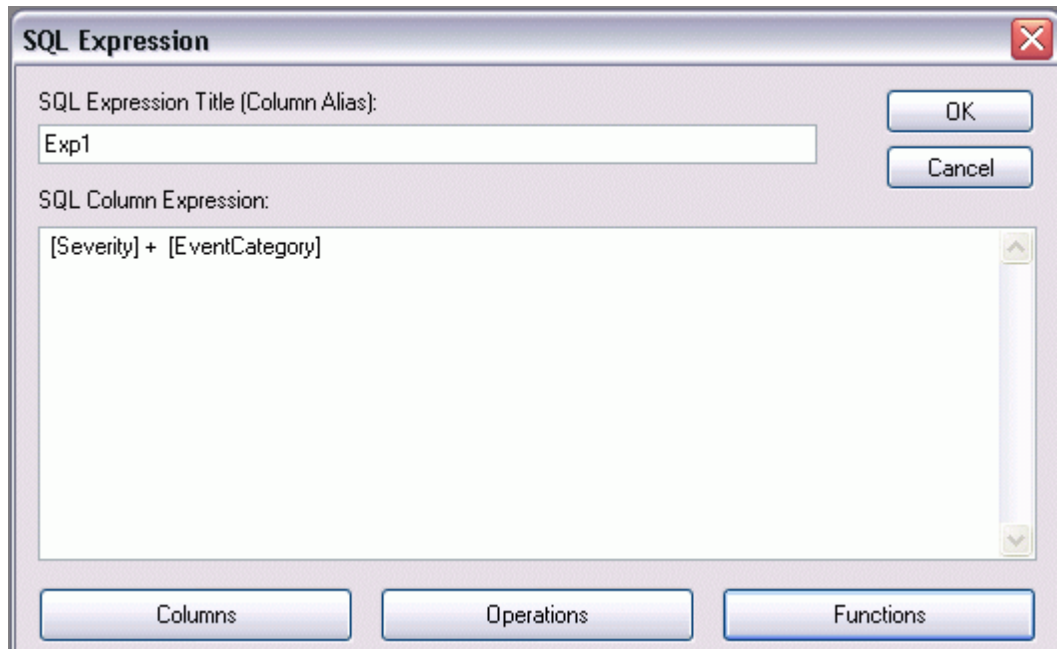
Report Fields Tab of Template Designer Dialog Box

To select columns to be reported, simply check the appropriate items in the list box. To change the order of an item, highlight the item and click the **Move Up** and **Move Down** buttons. You will see the item move up and down the list as you do so. When you select an item, you can also specify a width as a percentage of the width of the entire report. You can rename the header title by clicking the **Rename Header** button and filling in the appropriate text, or you can simply click on the header text itself and wait for the cursor to appear.

Adding SQL Expressions to Columns

You can also add custom columns to your alarm reports using expressions. Clicking the **Add Expression** button on the **Report Fields** tab opens the **SQL Expression Builder**, as shown in the figure below. Click the **Columns**, **Operations**, and **Functions** buttons to edit your expressions. When you click **OK**, your custom column will be added to the **Column Name** list in the **Report Fields** tab. Once the expression is added to the list, you can edit or delete the expression.

Note: Please refer to the SQL language documentation for details about SQL expressions.



SQL Expression

SQL Expression Title (Column Alias):
Exp1

SQL Column Expression:
[Severity] + [EventCategory]

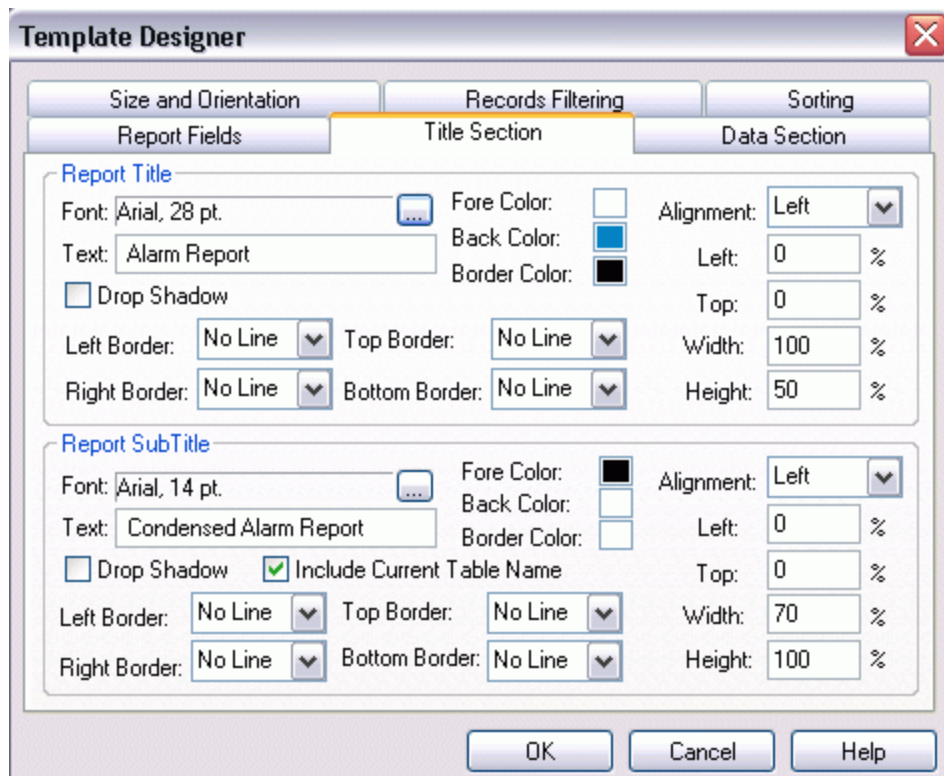
Columns Operations Functions

OK Cancel

SQL Expression Builder

Title Section

The **Title Section** tab of the **Template Designer** dialog box, shown below, allows you to configure a title for your report. Simply adjust the text, colors, borders, font, shadowing, and alignment of your title and subtitle to match the desired appearance.



Template Designer

Size and Orientation Records Filtering Sorting

Report Fields Title Section Data Section

Report Title

Font: Arial, 28 pt. Fore Color: Back Color: Alignment: Left

Text: Alarm Report Border Color: Left: 0 %

Drop Shadow Top: 0 %

Left Border: No Line Top Border: No Line Width: 100 %

Right Border: No Line Bottom Border: No Line Height: 50 %

Report SubTitle

Font: Arial, 14 pt. Fore Color: Back Color: Alignment: Left

Text: Condensed Alarm Report Border Color: Left: 0 %

Drop Shadow Include Current Table Name Top: 0 %

Left Border: No Line Top Border: No Line Width: 70 %

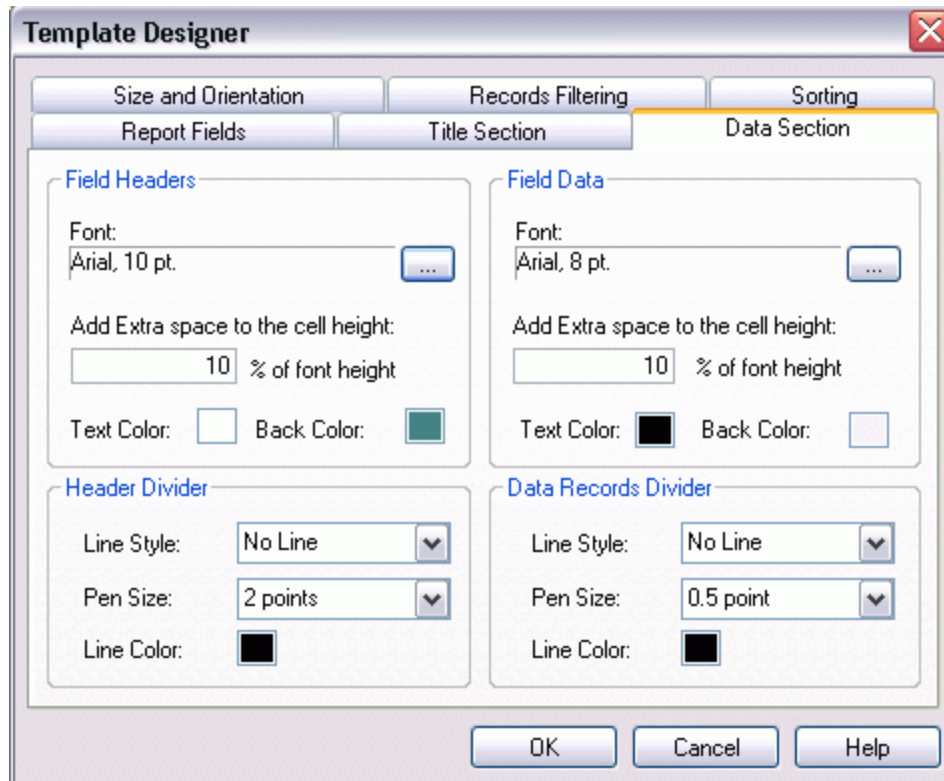
Right Border: No Line Bottom Border: No Line Height: 100 %

OK Cancel Help

Title Section Tab of Template Designer Dialog

Data Section

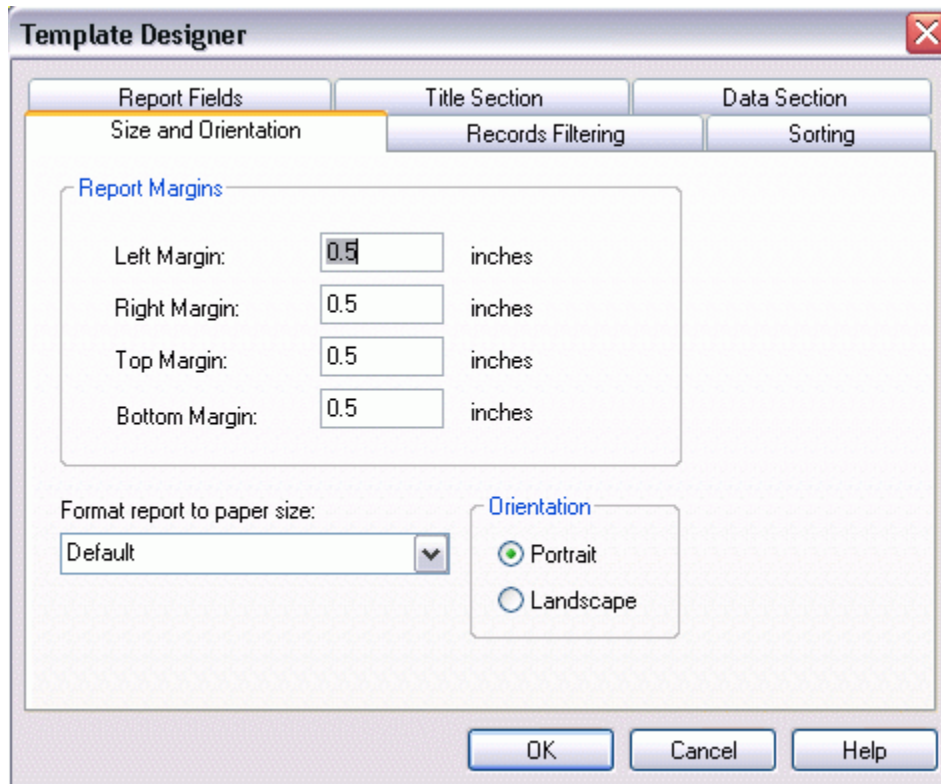
The **Data Section** tab of the **Template Designer** dialog box, shown below, configures the appearance of the headers and fields of your reported data. Adjust the font, cell padding, text color, and background color of the column headers in the **Field Headers** frame. You can change the style, thickness, and color of the header dividers by adjusting the **Line Style**, **Pen Size** and **Line Color** items in the **Header Divider** frame. To adjust the appearance of the reported data and dividers, make the appropriate modifications to the **Field Data** and **Data Records Divider** frames.



Data Section Tab of Template Designer Dialog Box

Size and Orientation

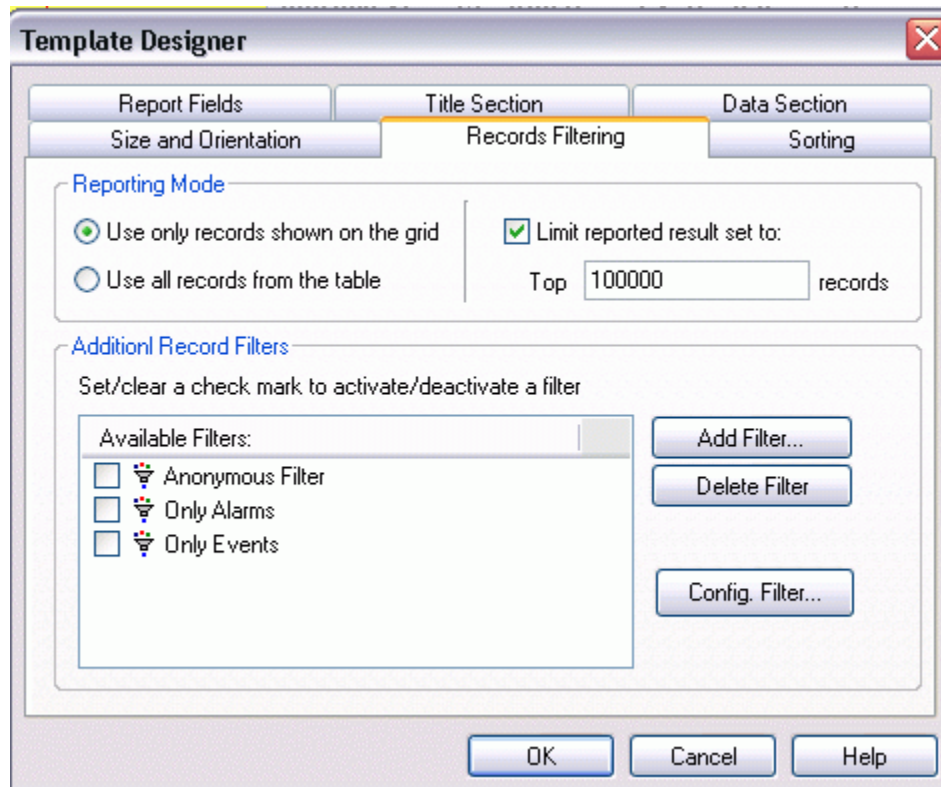
The **Size and Orientation** tab of the **Template Designer** dialog box, shown below, adjusts the margins for the final report. Simply fill in the margin fields as needed. Adjust the paper size by selecting an item from the **Format report to paper size** drop-down list. (The default is 8.5 x 11 inches.) You can also specify a **Portrait** (vertical) or **Landscape** (horizontal) orientation for the report.



Size Tab of Template Designer Dialog Box

Records Filtering

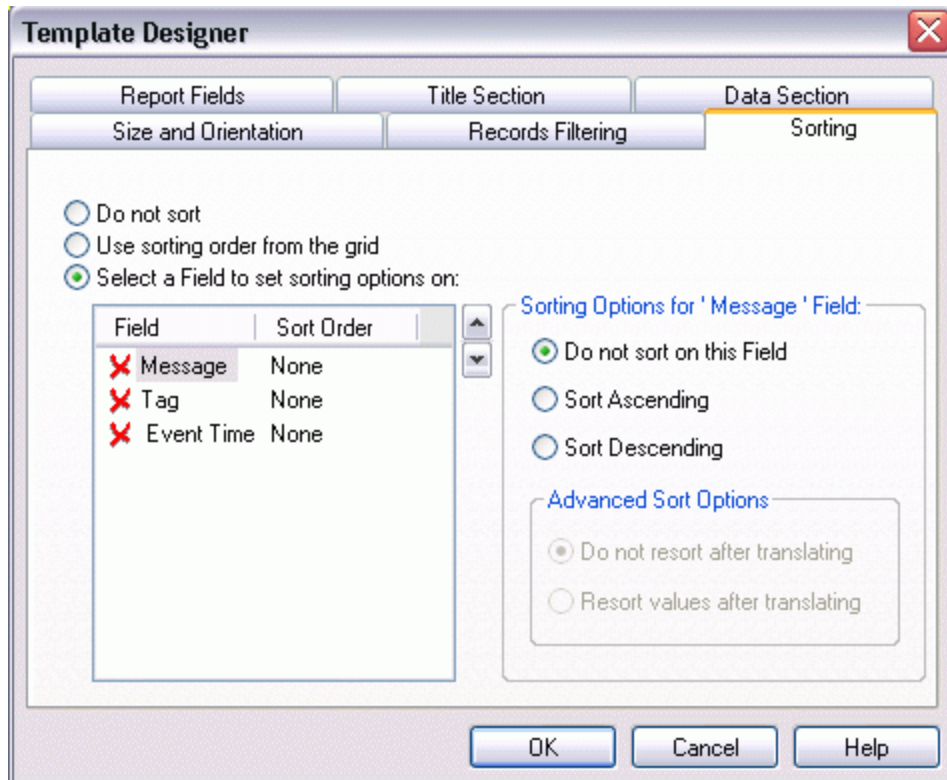
You can configure filters for your reports on the **Records Filtering** tab of the **Template Designer** dialog box, shown below. Records can be reported either from the grid or from the alarm table. One level of filtering marks the difference between reporting alarms from the grid and reporting alarms from the table. The alarms that make it from the table to the grid are the ones that pass through the filter defined in the Record Filtering tab of the **Alarm Report ActiveX Properties** dialog box. The records chosen, whether from the alarm table or from the grid, can be filtered for reporting in the **Available Filters** list. (In case you are reporting only records shown on the grid, this is a second level of filtering from the alarm table to the report) The adding, deleting, and configuring of filters is handled the exact same way as on the Record Filtering property tab.



Records Filtering Tab of Template Designer Dialog Box

Sorting

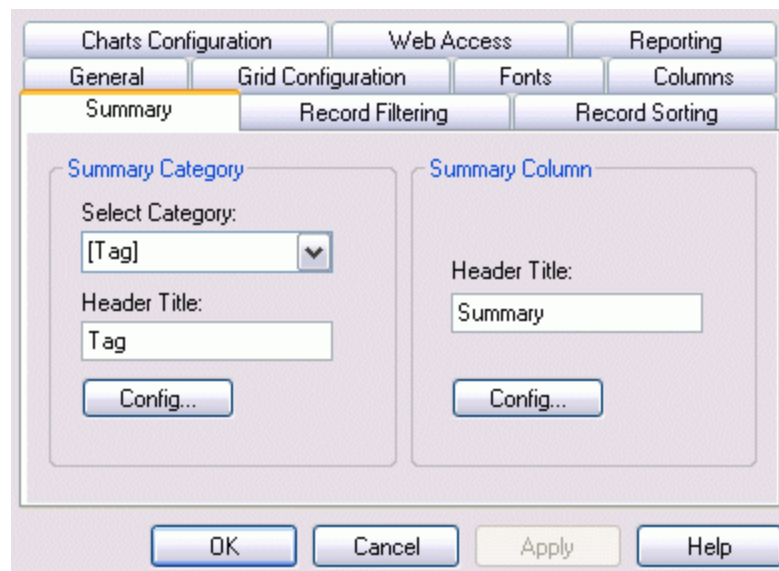
The **Sorting** tab of the **Template Designer** dialog box, shown below, provides three options for sorting alarm records in your report. You can choose not to sort at all by selecting the **Do not sort** option. If the **Use sorting order from the grid** option is selected, then the report sorting defaults to the sorting defined on the Records Sorting tab of the **Alarm Report ActiveX Properties** dialog box. You can override the grid sorting by choosing **Select a Field to set sorting options on**. Set your sorting parameters with the list box and options below. For detailed information on configuring your custom sorting, see the Records Sorting section.



Sorting Tab of Template Designer Dialog Box

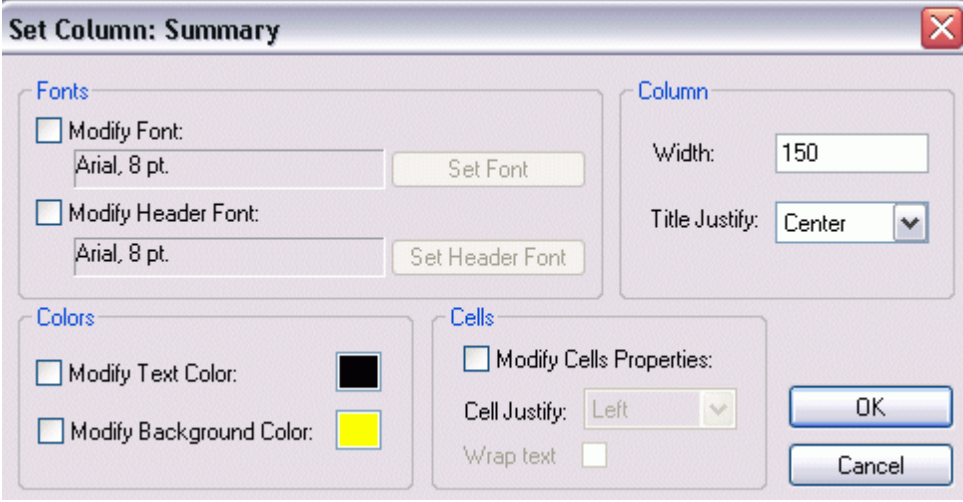
Summary

The **Summary** tab of the **Alarm Report ActiveX Properties** dialog box, shown below, configures the content and appearance of summary information to be displayed on the alarm report grid in runtime mode. The **Select Category** drop-down list specifies the category of alarm to be displayed in the summary.



Alarm Report ActiveX Summary Tab

You can also select a title and click the **Config...** button. This opens the **Set Column** dialog box for the selected category, as shown below. Here you can adjust the font, color, and appearance of the selected alarm category. The title and configuration on under **Summary Column** are used to modify the appearance of the values associated with the **Summary Category**.



The **Set Column: Summary** dialog box is used to configure the appearance of the Summary Column. It contains the following sections:

- Fonts:**
 - ☐ **Modify Font:** Text: Arial, 8 pt. Button: Set Font
 - ☐ **Modify Header Font:** Text: Arial, 8 pt. Button: Set Header Font
- Column:**
 - Width: 150
 - Title Justify: Center (dropdown menu)
- Colors:**
 - ☐ **Modify Text Color:** Color swatch: Black
 - ☐ **Modify Background Color:** Color swatch: Yellow
- Cells:**
 - ☐ **Modify Cells Properties:**
 - Cell Justify: Left (dropdown menu)
 - Wrap text: ☐

Buttons: OK, Cancel

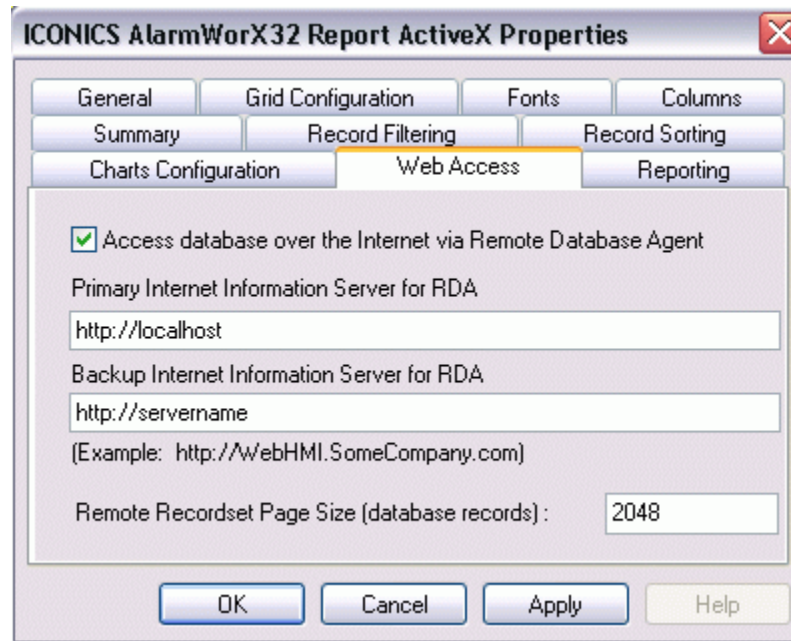
Setting the Summary Column/Category Characteristics

Web Access

The **Web Access** tab of the **Alarm Report ActiveX Properties** dialog box, shown below, allows you to access the currently connected Alarm Logger database over the Internet via a **Remote Database Service (RDS)**, or **Remote Database Agent (RDA)**. The RDS, which is hosted by an Internet Information Server (IIS), enables the downloading of report data from the logger database to a client over the Internet. Simply specify the URL name or IP address of the primary IIS Web server in the **Primary Internet Information Server for RDA** field, as shown in the figure below. The **Recordset Page Size** field specifies the size of the recordset portion in the database records.

Note: You also may designate a redundant IIS Web server by specifying the URL name or IP address of the redundant IIS Web

server in the **Backup Internet Information Server for RDA** field, as shown in the figure below.

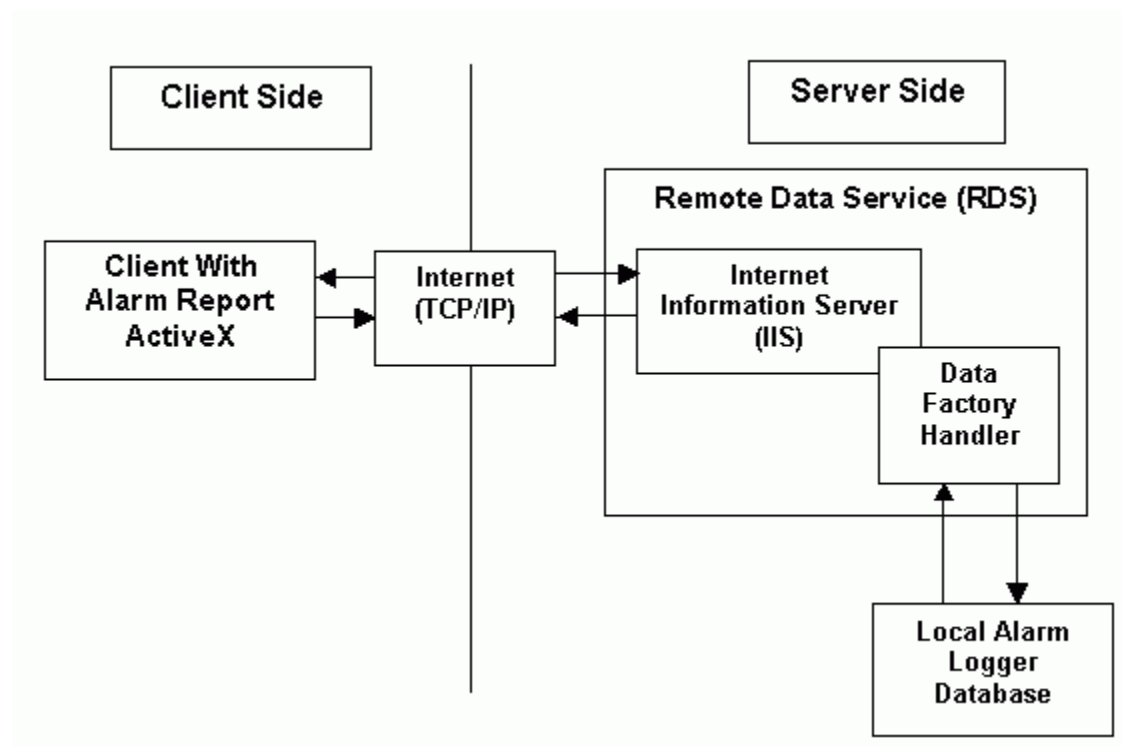


Alarm Report ActiveX Web Access Tab

When Internet Access to the logger database is enabled, the client makes a request over the Internet to the IIS Remote Data Service. The RDS uses a special component, called the Data Factory Handler, to relay the request to the local logger database on the server, as shown in the figure below. The RDS retrieves the relevant information for the alarm report from the logger database so that the client can download the data from the server over the Internet. The client machine then displays the data in the Report ActiveX per the client's report configuration settings.

In most typical scenarios, the Report ActiveX configuration is done on the server side. Those steps include:

- Connection to the database is established by clicking the **Connection Parameters** button on the **General** tab of the **Report ActiveX Properties** dialog and using the **Database Connection** dialog.
- Internet access settings are enabled on the **Web Access** tab.
- Configuration data saved as an *.awr file or a *.gdf display containing the Report ActiveX are published to an HTML document on a WebHMI server.



Downloading Alarm Report Data From a Remote Logger Database

Tips for Remote Data Access

A good understanding of Remote Data Access principles is a key element to building a successful solution for a Web-enabled alarm reporting system. Since the volume of alarm databases can reach hundreds of megabytes, it is very important to keep in mind the following aspects.

Maximum Number of Downloadable Database Records and Adequate Record Filtering

The setting for the maximum number of records to download (Nmax) indicates that any database query operations would return no more than Nmax alarm records (lines to the grid). If more than Nmax records from the current table match the current filtering criteria, then only the portion of the record set containing top Nmax records is returned. To avoid such record set cut-off, strong restrictive record filters should be used all the time. Since the record filters are processed on the database side, the database server uses all existing records to build the record set.

Proper Choice of the Back-end Database

It should be noted that the use of Microsoft Access databases (*.mdb) is not recommended for Web Access. Poor memory management in Microsoft Jet Engine creates a serious scalability problem for any type of Web database application. **The recommended back-end database for Web alarming is MSDE (Microsoft Desktop Engine) or Microsoft SQL Server.**

Table Management in Alarm Logger Configuration

To provide further optimization for the Alarm Logger database operations, the table management should be enabled in the logger configuration. See the Alarm Logger Configurator documentation for more information.

Security

To access the Security Server, either select **Security > Configuration** from the AlarmWorX32 Container **Tools** menu, or click the Security button on the toolbar. This opens the Security Server Login dialog box, as shown below.



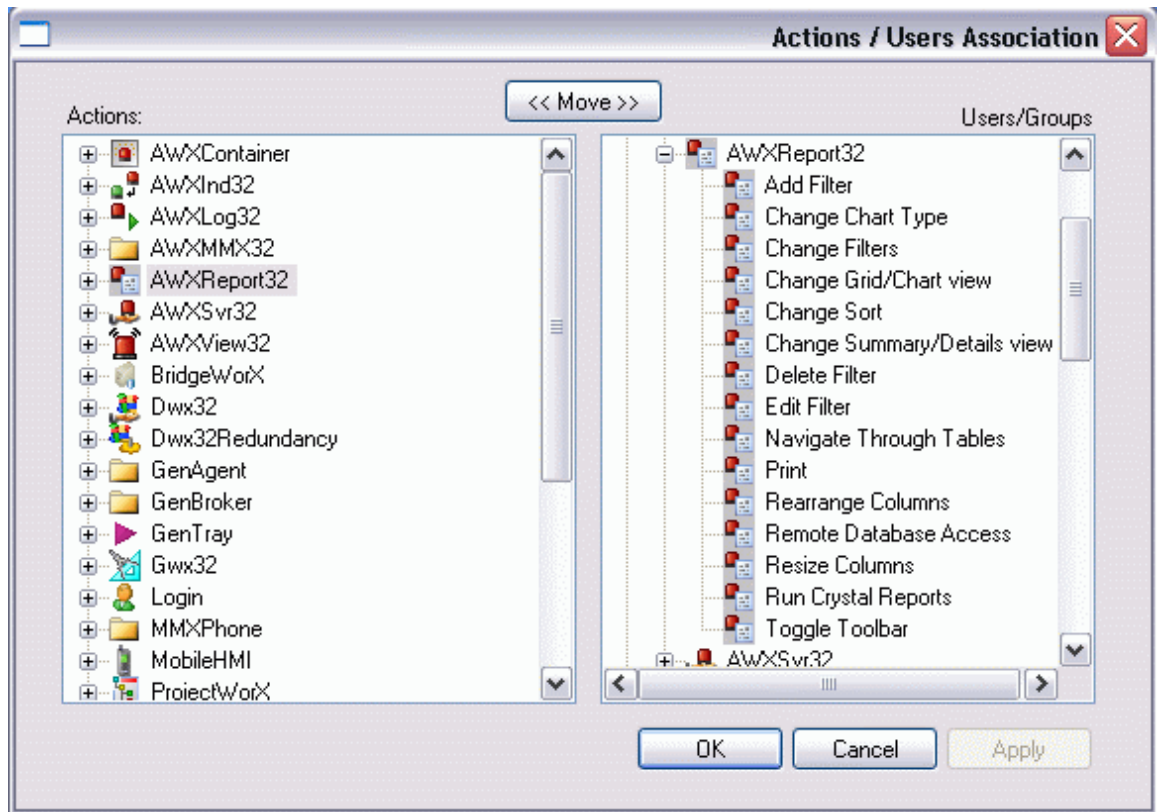
The dialog box has a light purple background. In the top left corner is a yellow padlock icon. To the right of the icon, the text reads: "Enter an Administrator user name and password, or leave the user name blank and enter the default Administrator password:". Below this text are three input fields. The first is labeled "User Name:" and is empty. The second is labeled "Password:" and is empty. The third is labeled "Challenge:" and contains the text "11178". At the bottom of the dialog are two buttons: "OK" and "Cancel".

Security Server Login

Enter your **User Name** and **Password**, and then click **OK**. This opens the Security Server Configurator, where you can access the Security Server. Depending on your configured level of security, you may or may not be able to edit components of the Security Server.

Note: For more information about security, please see the Security Configurator help documentation.

Once a user has gained access, the Security Server dialog box will appear. From the **Edit** menu, choose **Application Actions**. The **Actions/Users Association** dialog box appears as shown below.



Editing Security Actions and User Associations

The Security Server can be set up to allow access to several different actions from this dialog. To set the options for the AlarmWorX32 Report ActiveX, select **AWXReport32** from the list in the right pane. This brings up the list in the left pane, which includes the following options:

- Add Filter
- Change Chart Type
- Change Filters
- Change Grid/Chart View
- Change Sort
- Change Summary/Details View
- Delete Filter
- Edit Filter
- Navigate Through Tables
- Print
- Rearrange Columns
- Resize Columns
- Remote Database Access
- Run Crystal Reports
- Toggle Toolbar

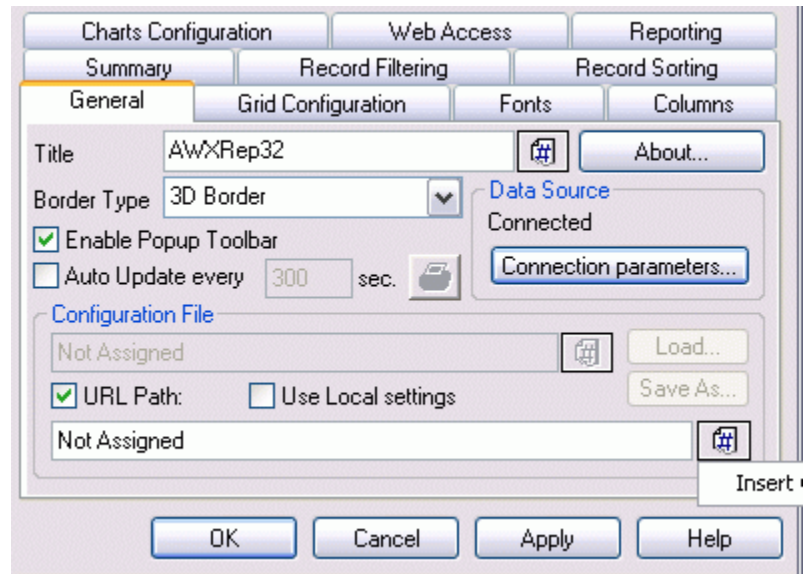
Global-Aliasing Support

The AlarmWorX32 Report ActiveX supports Global Aliasing by interfacing to the ICONICS Global Aliasing System Engine Server.

Currently the AlarmWorX32 Report ActiveX supports machine-level and process-level aliasing. All fields that support aliasing have been interfaced to the Global Alias Browser dialog, which is evoked by clicking on the ... button in the configuration.

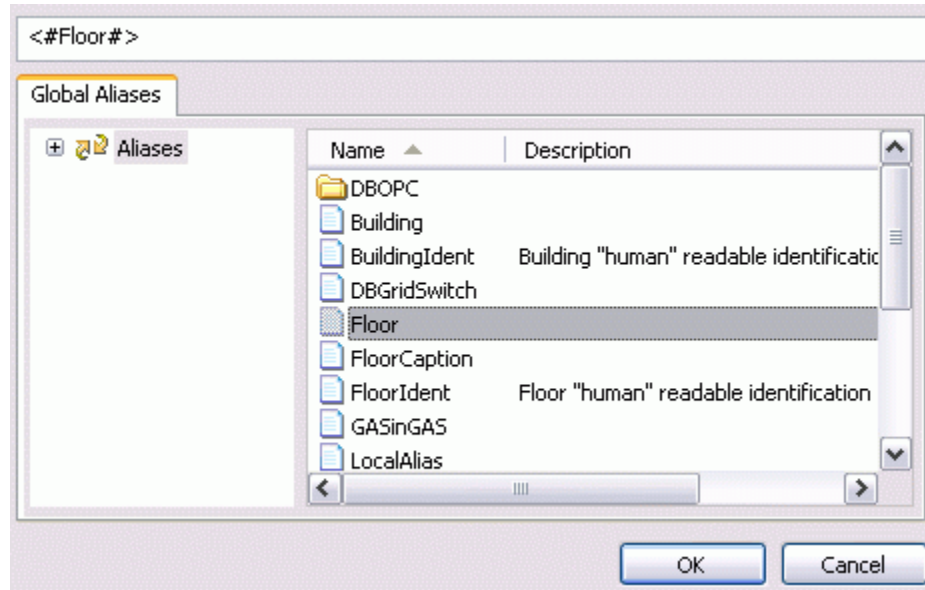
When specifying a global alias in the **Alarm Report ActiveX Properties** dialog box, you can also select a global alias from the **Global Alias Browser**, which includes all global aliases in the Global Aliasing System database. This eliminates the need to manually type in the alias name. Clicking the # button and selecting **Insert Global Alias** from the pop-up menu opens the Global Alias Browser, as shown in the figure below. The Global Alias Browser is available for the following:

- **Title, Configuration File, and URL Path** sections of the **Alarm Report ActiveX Properties** dialog box **General** tab
- Records filtering



Opening the Global Alias Browser in the Report Properties

All global aliases that are configured in the Global Alias Engine Configurator are conveniently available to choose from inside the Unified Data Browser. The tree control of the Global Alias Engine Configurator is mimicked in the tree control of the Global Alias Browser. Select a global alias by double-clicking the alias name (e.g. "Floor" in the figure below). The alias name appears at the top of the browser, which automatically adds the <# and #> delimiters to the alias name. Click the **OK** button.

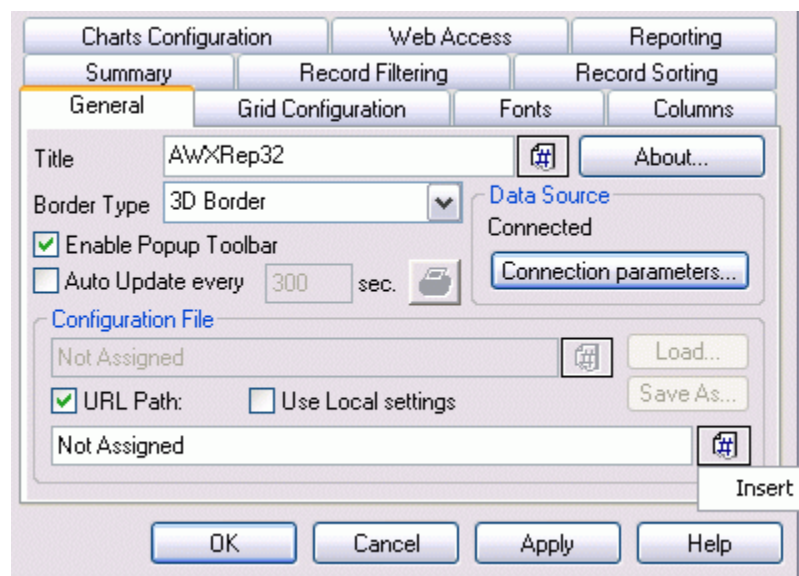


Selecting an Alias From the Global Alias Browser

Asynchronous Downloading Features

The AlarmWorX32 Report ActiveX supports asynchronous downloading of configuration data when used inside ICONICS ActiveX document servers, such as GraphWorX32, to produce documents, which can be viewed using Microsoft Internet Explorer.

To enable this feature, select **URL Path** from the **General** tab of the **Alarm Report ActiveX Properties** dialog box, shown below, and supply a URL path. In the case of viewing ActiveX documents within an intranet setup, you can supply a server name and directory specifying the location of the AlarmWorX32 Report configuration data (must be a shared directory), by using the convention "file:\\Server Name\\Directory\\File Name.awr."



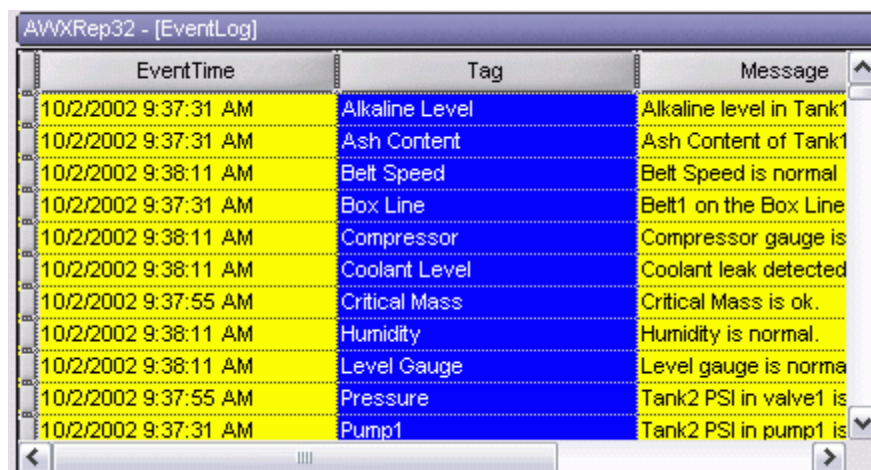
Alarm Report ActiveX Properties: General Tab

See Also

Web Access

Runtime Mode

To enter runtime, either click the **Enter Runtime** button on the toolbar or select **Runtime Mode** from the **Actions** menu. Once in runtime, the following data grid appears.



EventTime	Tag	Message
10/2/2002 9:37:31 AM	Alkaline Level	Alkaline level in Tank1
10/2/2002 9:37:31 AM	Ash Content	Ash Content of Tank1
10/2/2002 9:38:11 AM	Belt Speed	Belt Speed is normal
10/2/2002 9:37:31 AM	Box Line	Belt1 on the Box Line
10/2/2002 9:38:11 AM	Compressor	Compressor gauge is
10/2/2002 9:38:11 AM	Coolant Level	Coolant leak detected
10/2/2002 9:37:55 AM	Critical Mass	Critical Mass is ok.
10/2/2002 9:38:11 AM	Humidity	Humidity is normal.
10/2/2002 9:38:11 AM	Level Gauge	Level gauge is normal
10/2/2002 9:37:55 AM	Pressure	Tank2 PSI in valve1 is
10/2/2002 9:37:31 AM	Pump1	Tank2 PSI in pump1 is

Runtime Mode

Note: If runtime mode does not show any data, make sure you have established a connection with an Alarm Logger database. You can connect to a database by clicking **Connection Parameters** on the **General** tab of the **Alarm Report ActiveX Properties** dialog box while in configuration mode. Also, if you deleted one of the three default columns (EventTime, Tag, or Message), the Report ActiveX will be disabled in runtime mode.

Double-clicking anywhere on the Alarm Report ActiveX during runtime mode opens the **Alarm Report** toolbar, as shown in the figure below. Using the toolbar, you can execute certain operations and change how the data are viewed.



Alarm Report Toolbar

There are two different views to choose from: Data Grid or Chart Summary. When viewing the Data Grid, you can further choose from a detailed report or a summary report. These views are described in the sections below along with the other tool button options.

See Also

Data Grid

Chart Summary

Printing Current Alarms

Choosing a Crystal Report Template

Updating Alarm Data

Adjusting the Column Width

Sorting and Filtering Data Using the Alarm Report Toolbar

Data Grid

By default, the Alarm Report ActiveX runtime screen displays the **Data Grid > Details** view, as shown below. The Data Grid displays all data for the alarms in the report. The reported elements are determined by the columns selected during configuration. Additionally, you may be able to change the view slightly by changing the width of the columns (if this option was enabled during configuration).

AWXRep32 - [EventLog]		
EventTime	Tag	Message
10/2/2002 9:37:31 AM	Alkaline Level	Alkaline level in Tank1 is too low. Contents ar
10/2/2002 9:37:31 AM	Ash Content	Ash Content of Tank1 is too low. Contents ar
10/2/2002 9:38:11 AM	Belt Speed	Belt Speed is normal
10/2/2002 9:37:31 AM	Box Line	Belt1 on the Box Line is slipping.
10/2/2002 9:38:11 AM	Compressor	Compressor gauge is reading normal
10/2/2002 9:38:11 AM	Coolant Level	Coolant leak detected.
10/2/2002 9:37:55 AM	Critical Mass	Critical Mass is ok.
10/2/2002 9:38:11 AM	Humidity	Humidity is normal.
10/2/2002 9:38:11 AM	Level Gauge	Level gauge is normal.
10/2/2002 9:37:55 AM	Pressure	Tank2 PSI in valve1 is normal
10/2/2002 9:37:31 AM	Pump1	Tank2 PSI in pump1 is too low
10/2/2002 9:37:31 AM	Scale	Reading on the scale is low.
10/2/2002 9:38:11 AM	Tank PSI	PSI in Tank1 is normal.
10/2/2002 9:37:31 AM	Tank1	The level in tank1 is too low.
10/2/2002 9:38:11 AM	Tank2 PSI	Tank 2 Pressure Alarm: Deviation
10/2/2002 9:38:11 AM	Tank2 PSI	HHH Limit on the pressure has been exceeded
10/2/2002 9:38:11 AM	Oven Temp	Oven Temperature Changed too quickly (ROC
10/2/2002 9:38:11 AM	Oven Temp	Temperature has fallen below the L.O limit

Data Grid Details View in Runtime Mode

To view a summary of the data, double-click the grid and then click the **Alarm Summary** button on the **Alarm Report** toolbar. The view changes to display only the Tag name and the Alarm Summary, as shown in the figure below. The data are listed, from highest to lowest, by the number of alarms.

AWXRep32 - [EventLog (Summary)]	
Tag	Summary
Alkaline Level	1
Ash Content	1
Belt Speed	41
Box Line	1
Compressor	35
Coolant Level	21
Critical Mass	22
Humidity	42
Level Gauge	41
Motor Current	1
Oven Temp	131
Pressure	50
Pump1	1
Scale	1
Tank PSI	39
Tank1	1
Tank2 PSI	129
Tank3 PSI	2

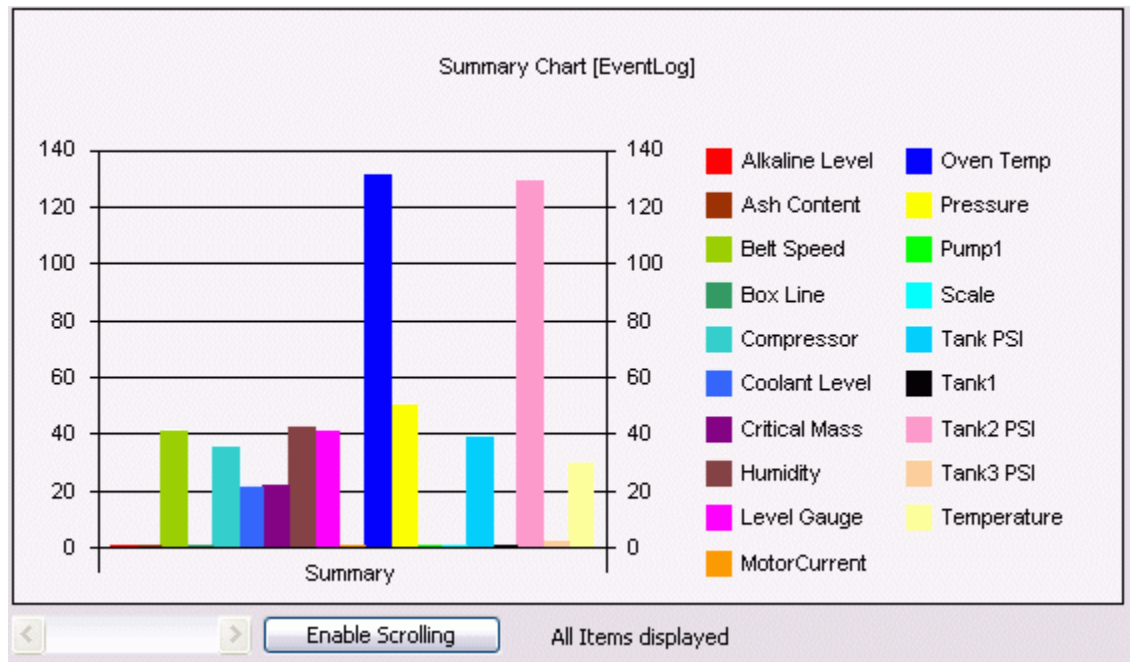
Data Grid Summary View in Runtime Mode

Chart Summary

To view a bar chart or pie chart summary of the Alarm Report data during runtime mode, double-click the Alarm Report ActiveX and then click the **Chart Summary** buttons on the **Alarm Report** toolbar. The number of items charted depends on the options selected on the **Record Filtering** tab of the **Alarm Report ActiveX Properties** dialog box. If no filters are enabled, all alarm types are charted.

Bar Charts

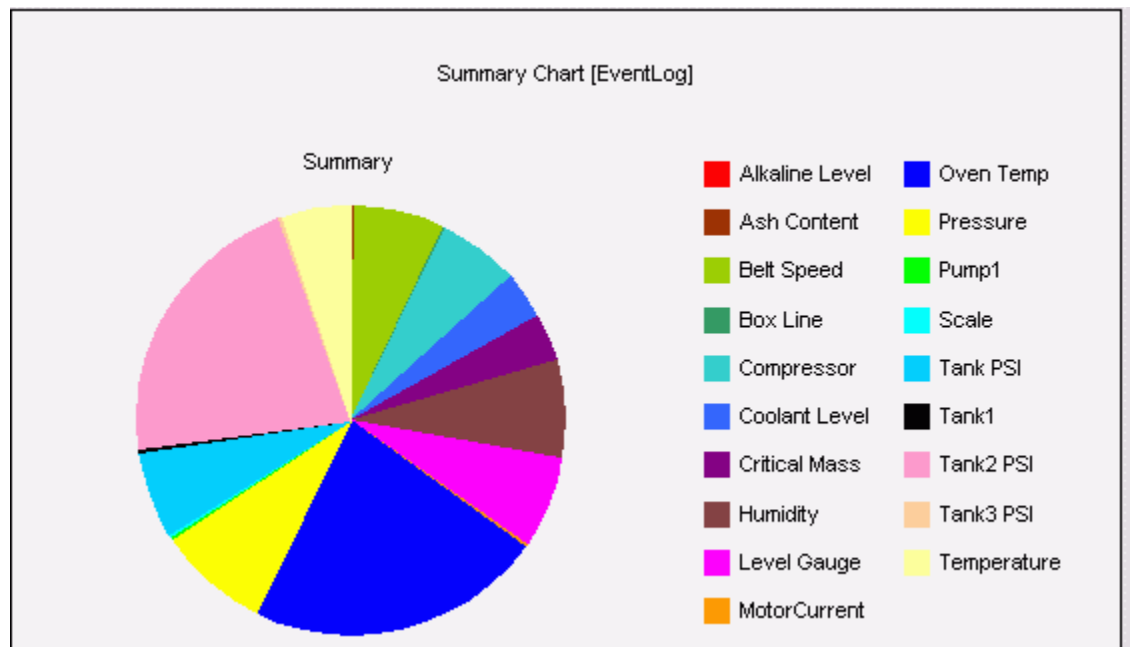
A **Bar Summary Chart**, shown in the figure below, shows how many alarms of each type are present in the database that is being reported. If scrolling is enabled in the **Charts Configuration** tab of the **Alarm Report ActiveX Properties** dialog box, an **Enable Scrolling** button appears at the base of the bar chart summary, as shown below. Click this button to scroll left or right between bars on the chart using the arrows.



Bar Chart Summary

Pie Charts

A **Pie Summary Chart**, shown in the figure below, shows what percentage of each alarm type exists in the report.



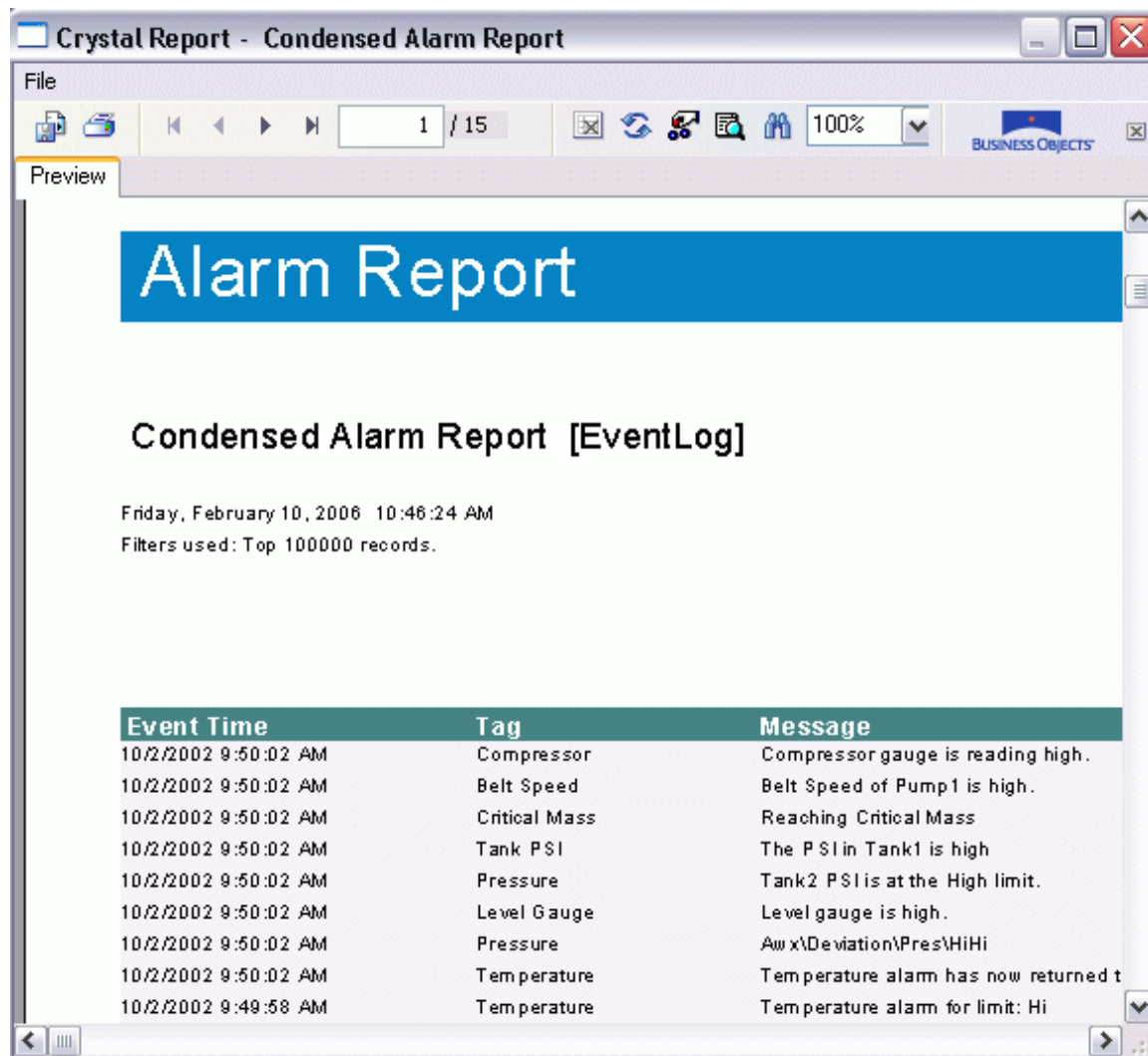
Pie Chart Summary

Printing Current Alarms

The **Print Current Alarms** button on the **Alarm Report** toolbar opens the standard **Print** dialog box, where you can choose your printing settings. The current view will be printed with the date, time, description, and page number at the top of the page.

Choosing a Crystal Report Template

If you have configured any reporting templates on the 'Reporting' tab in configuration mode, you will see one to five reports on the **Alarm Report** toolbar from which to choose. Clicking on a report button launches a Crystal Reports viewer, showing the selected report. From there, all of the features of Crystal Reports are at your disposal for printing, formatting, and saving your report. A sample Crystal Report is shown below.



Sample Report

Updating Alarm Data

Clicking the **Update Alarm Data** button on the **Alarm Report** toolbar refreshes the data shown in the Alarm Report ActiveX during runtime with the most current alarm data from the connected Alarm Logger database.

Adjusting Column Width

During runtime mode, you can adjust each column in the Alarm Report ActiveX data grid independently by moving the cursor over the vertical line between each column (a double arrow will appear) and moving the line while holding down the mouse button.

Sorting and Filtering Data Using the Alarm Report Toolbar

The last two buttons before the left and right arrows on the **Alarm Report** toolbar are used to sort and filter the alarm data.

Clicking the **Sort Alarms** button on the toolbar opens the **Sorting Fields** dialog box, shown in the figure below, which can be accessed through the Record Sorting tab of the **Alarm Report ActiveX Properties** dialog box.

Sorting Fields

☐ Disable All Sorting

Regular Fields

Select a Field to set sorting options on:

Field	Sort Order
EventTime	Descending
Message	None
Tag	None

Sorting Options for 'EventTime' Field:

☐ Do not sort on this Field
☐ Sort Ascending
☒ Sort Descending

Advanced Sort Options

☒ Do not re-sort after translating
☐ Re-sort values after translating

Summary Field Sort Order

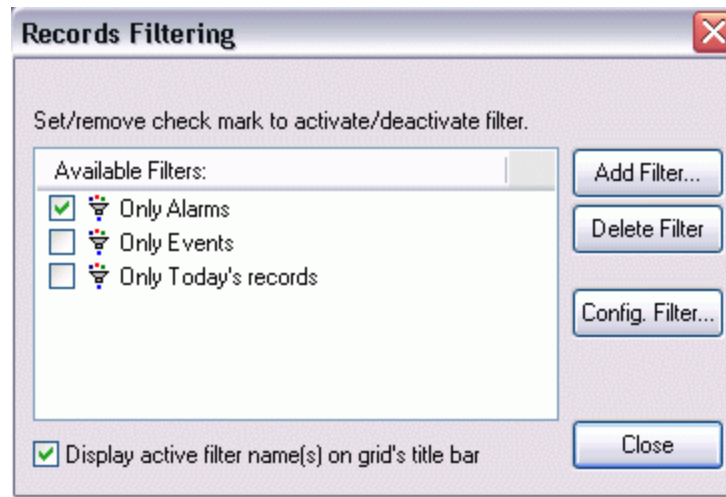
☒ Descending (more frequent records first)
☐ Ascending (less frequent records first)

☐ Enable sorting action on grid header double click

OK Set Default Cancel

Sorting Alarm Records

Clicking the **Filter Alarms** button on the toolbar opens the **Records Filtering** dialog box, shown below. For information about adding, removing, and configuring filters, please see the Record Filtering section.



Alarm Filtering