AlarmViewer Control Reference

Display and acknowledge active alarms.

Reference **Controls** **Viewer** AlarmViewer

The AlarmViewer component displays alarm events configured in the Alarms Module. It allows users to quickly select alarm properties to display, such as acknowledgment status, active time, tag name, and priority. Users can filter, sort, and reorder columns, merge high-priority alarms, and view detailed information like user comments and duration. The component supports dynamic updates, links to other data sources, and displays time with millisecond precision, facilitating effective alarm management and analysis.

Requirements
Configuration
- Alarm Column Settings

Customizations for Alarm window
- Touch-Sensitive Control for Alarm window
- Scrolling Controls for Alarm window
- Customizing Alarm window appearance
- Responsive Sizing
- AlarmView Duration Field
- Number of Occurrences

AlarmViewer Colors and Themes
Runtime Execution

Requirements

This component is Portable. It runs both on Windows (WPF) and on Web Pages hosted in any platform.

Portable Exception: The HotKey configuration only will be executed in Windows.

Configuration

1. Go to **Displays / Draw**.
2. On the Components Panel, select **Modules**, then **AlarmViewer.**
3. Click or drag-and-drop it on the Drawing area to use it.
4. Double-click the component to open the configuration window.

AlarmViewer Settings	
Field	**Description**
List	Selects the source of alarms to display in the viewer. Options include: 1. **OnlineAlarms**: Displays real-time alarms that are currently active or have been recently triggered in the system. 2. **AlarmHistory**: Shows a historical record of alarms, including those that have been resolved or acknowledged. This option provides insights into past alarm events. 3. **AuditTrail**: Presents a log of changes and actions taken within the system, including user activities and system modifications. Helps track who did what and when. 4. **AlarmHistory+AuditTrail**: Combines both historical alarm records and audit trail logs. This integrated view helps correlate alarm events with user actions and system changes.
MaxLines	Sets the maximum number of alarm lines to display in the grid. Default is 1024. From FrameworX 10.1.5e, for history views the result is also bounded by the server side ceiling `Alarm.HistoryQueryMaxRows` in `TServer.json`: a `MaxLines` value above that ceiling shows the newest rows up to the ceiling, without an error banner. See Alarm History Query Row Ceiling (Alarms Engine Reference).
Ack Selected line	Allows acknowledging the selected alarm line when checked.
ListChange Link	Links the alarm viewer to another list or data source, allowing dynamic updates based on changes in the linked list.
Merge Hi and HiHi lines	Merges high-priority (Hi) and very high-priority (HiHi) alarm lines into a single view when enabled.
Show column titles	Displays the column titles in the alarm grid when checked.
Ack by page	Allows acknowledging alarms by page number.

Show Header	Enables users to drag column titles to group data based on those columns.
AllowSort	Enables sorting of the columns within the grid.
Allow Column Reorder	Allows users to reorder the columns by dragging them.
Display Value column as string	Displays the values in the grid as strings when checked.
Filter	Provides a text box for filtering the alarm entries based on specific criteria.
Display Milliseconds	Shows the time with millisecond precision when enabled.
Columns	Lists all the available columns that can display in the alarm viewer grid. Users can select which columns to show or hide.
Visible	Shows the column in the grid when checked.
Show in column chooser	Makes the column available in the column chooser tool.
Column Details	Allows configuring specific details for each column.
Title	Sets the title for the selected column.
Width	Sets the width of the column in pixels.
Sort	Specifies the sorting order for the column (None, Ascending, Descending).
Custom Theme	Applies the active FrameworX theme to the alarm viewer's appearance, including a themed column header and the configured Fill color in the body. Disabled by default.

Hotkeys

Note: You can configure hotkeys on Portable displays, but they are only available in Windows Clients due to browser limitations.

Alarm Column Settings

Columns	Description
AckStatus	Shows the acknowledgment status of the alarm.
ActiveTime_Ticks	Displays the active time of the alarm in ticks.
TagName	Shows the name of the tag associated with the alarm.
Group	Displays the group to which the alarm belongs.
Value	Shows the current value of the alarm.
AckRequired	Indicates if acknowledgment is required.
Condition	Shows the condition that triggered the alarm.
Area	Displays the area or location related to the alarm.
Priority	Shows the priority level of the alarm.
NormTime_Ticks	Displays normalized time in ticks.
AckTime_Ticks	Shows the acknowledgment time in ticks.
UserName	Displays the name of the user who acknowledged the alarm.
Comments	Shows any comments related to the alarm.

ColorFG	Displays the foreground color for the alarm display.
ColorBG	Shows the background color for the alarm display.
NotSync	Indicates if the alarm is not synchronized.
Level	Shows the level of the alarm.
Message	Displays the message associated with the alarm.
Duration	Shows the duration of the alarm.
Category	Displays the category of the alarm.
DateCreated_Ticks	Shows the creation date of the alarm in ticks.
AuxValue	Displays an auxiliary value associated with the alarm.
AlarmLimit	Shows the limit that triggered the alarm.
PreviousValue	Displays the previous value before the alarm was triggered.
UserFullName	Shows the full name of the user who acknowledged the alarm.
AuxValue2	Displays a second auxiliary value.
AuxValue3	Shows a third auxiliary value.

Customizations for Alarm window

Touch-Sensitive Control for Alarm window

To make the TAlarmViewer work with a touch-sensitive screen, follow these steps:

1. Go to **Scripts Task**.
2. Double-click **ClientStartup**.
3. In the CodeBehind editor, type the following C# code.

```
@Client.DisableMultiTouch = true
```

Scrolling Controls for Alarm window

The following methods and properties were created to enable programmatic scrolling for the control:

Methods

```
//Scrolls the content upward by the specified step size.
public void ScrollUp(double step)
```

```
//Scrolls the content upward by the default step size of 1.
public void ScrollUp()
```

```
//Scrolls the content downward by the specified step size.
public void ScrollDown(double step)
```

```
//Scrolls the content downward by the default step size of 1.
public void ScrollDown()
```

Properties

```
//Manages the visibility of the vertical scrollbar for the control.
public ScrollBarVisibility VerticalScrollBarVisibility
```

```
//Manages the visibility of the horizontal scrollbar for the control.
public ScrollBarVisibility HorizontalScrollBarVisibility
```

⚠ The same methods and properties are available for DataGrid Control.

Customizing Alarm window appearance

The following properties enable window customization for the AlarmViewer control:

Properties

```
//Flag to toggle visibility of RowSelectorPane (WPF Only).
public bool ShowRowSelectorPane
```

```
//Set BorderThickness for Alarm window.
public Thickness GridBorderThickness
```

⚠ The same properties are available for DataGrid Control.

Responsive Sizing

The AlarmViewer is a canonical “prominent resizable element.” To make it fill and grow as the Display resizes, set the Display’s **OnResize** to **Responsive** and enable **IsWidthAlign** and **IsHeightAlign** on the AlarmViewer. These flat element properties stretch the control with its container and are only effective when the Display is set to Responsive mode.

See also: Responsive Design and RESS.

AlarmView Duration Field

Duration is defined only for alarms that require user acknowledgment (ACK), measuring the time from trigger to ACK. The following model presents a step-by-step method on how to obtain the total duration of an alarm and occurrences per alarm.

By default, into the SQL tables that register the alarm events there is a column called "Duration", since the data shown in the AlarmWindow comes from this database, viewing the duration of alarms is based on how to display this information in the AlarmViewer Control (Reference) or in a separate data grid, so this procedure requires some historical alarm data in which there was an ACK from the user.

To obtain the duration of an alarm and other related information, configure the AlarmWindow to show the Historical values in the project and set Duration column to visible by double click AlarmViewer and follow the steps below.

Number of Occurrences

You can group alarms listed in an AlarmViewer to get an idea of how many times the alarm has gone off.

To achieve this, the AlarmViewer component features a drag-and-drop column functionality, which is, by default, disabled. However, it is possible to enable it by double-clicking the AlarmViewer, then checking the **Show Header** checkbox. This will activate the option only during runtime.

To utilize it, select the column **TagName**, drag it to the new area in the AlarmViewer's "**Drag columns titles here to group data**" option, as following example.

If you have a substantial number of alarms, it is possible to collapse the grouped elements to enhance visualization. Simply click on the plus and minus icons to expand or contrast them.

AlarmViewer Colors and Themes

Text in AlarmViewer doesn't change the color depending on theme

In **AlarmViewer**, the text and background colors are **not controlled by the application theme**. I

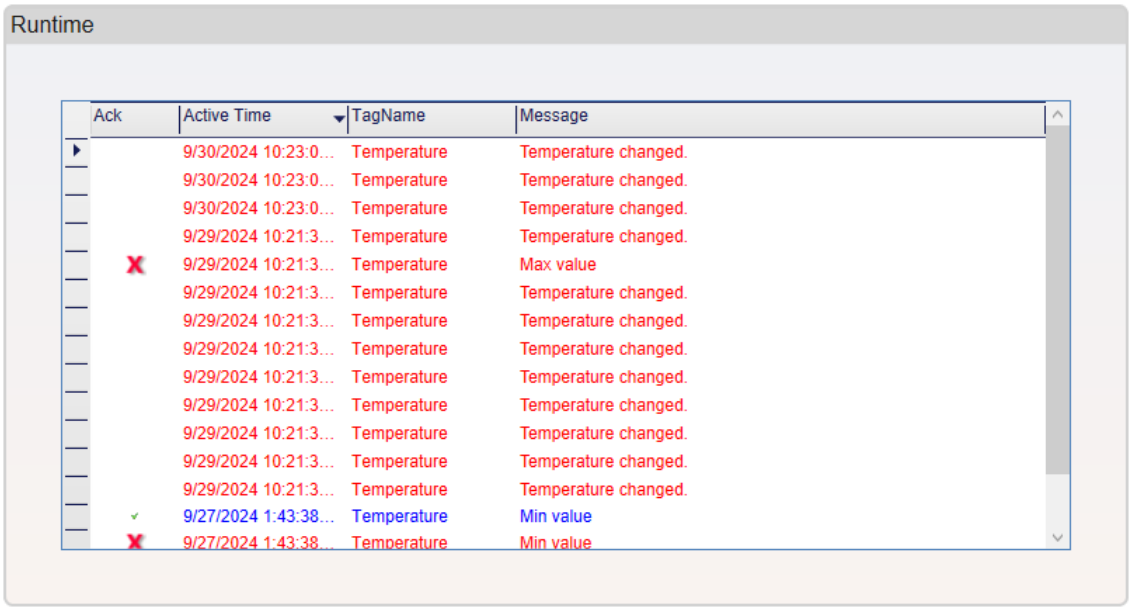
nstead, these colors are **defined at the alarm group level** under: ***Alarms > Groups > Color***

Runtime Execution

During runtime, the AlarmViewer component connects with the server to get information about the online alarms, or historical data according its configuration.

The online configuration is updated in real-time as new alarms happened or have its state changed. Users can interact with the AlarmViewer to monitor, filter, and manage alarms effectively.

For example, if an alarm is triggered in the "Cooling System" area, it will appear in the AlarmViewer with details such as acknowledgment status, active time, tag name, and priority. Users can acknowledge this alarm directly from the AlarmViewer interface, which will update the status of the alarm across all linked displays. Additionally, users can filter the alarms to show only high-priority events, sort the columns to view the most recent alarms first, and merge high-priority (Hi) and very high-priority (HiHi) alarms into a single view for easier management.



In this section...
