

# Using the Static Data Viewer

The Static Data Viewer is a web-based application that provides visual insights to live test data from structural test systems designed using the Static Structural Test Reference Architecture. Refer to the following sections for more information about using the Static Data Viewer, including tips and best practices.

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## Static Data Viewer Overview

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The Static Data Viewer web application is accessible on any remote client that has access to the test system network. The Static Data Viewer provides a personalized view of live test data; log in with your credentials and make configurations that are automatically saved until the next time you log in. The Static Data Viewer is intended for multi-monitor viewing; open multiple browser tabs to view data from the same test.

The Static Data Viewer has the following key features.

- **Filter and Select Channels**—Filter and select the channels to view live data from the test.
- **Annotate Log Files**—Record your observations as notes that are added to the test log file.
- **Configure Alarms**—Configure alarms associated with a specific channel and user account to automatically annotate the log file when an alarm threshold is met.
- **View Live Test Data**—View live test values and visualize the data in customizable graph views.

## Accessing the Static Data Viewer

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You can access the Static Data Viewer using the SystemLink URL provided by the admin that configured the test system web server.



**Tip** Bookmark the URL to quickly access the Static Data Viewer.



If you are logging into the Static Data Viewer for the first time, you must complete the following steps to register your user account.

1. Ensure that the client is either on the same network as the test system network or a VPN.
2. Open a web browser and enter the SystemLink URL provided by the admin.



**Note** NI recommends using Google Chrome to open the Static Data Viewer.

3. On the SystemLink login page, enter your Windows credentials associated with your organization.
4. Notify the admin after you log in.
5. Once the admin assigns the analyst role to your account, log in and begin using the Static Data Viewer.

## Using the Static Data Viewer

### Static Data Viewer Environment

The Static Data Viewer is hosted on the SystemLink Web Application. Refer to the following section for an overview of the Static Data Viewer environment.



**Note** Refer to the *Static Structural Test Reference Architecture Getting Started* for more information about configuring the Static Data Viewer for first use.

**Figure 1.** Static Data Viewer Environment

The screenshot shows the Static Data Viewer interface. At the top, there are navigation tabs: Home (1), Saved Graphs (2), and Saved Alarm Rules (3). Below the tabs is a 'Channel Filter' section with a 'Channel List' containing 64 channels, with 'Left Wing/ch11' through 'Left Wing/ch22' visible. To the right is a 'Data Table' with columns: Channel Name, Low Value, HI Alarm, LO Alarm, Hysteresis, Alarm Enabled, and Selected. The table contains 5 rows of data for channels 0 through 5. At the bottom, there is a 'Note' section (6) with an 'Add Note to Log' button, and an 'Alarms' section (5) with 'No Items' and buttons for 'Acknowledge Alarm' and 'Clear Alarm'. A 'Launch New Graph' button (4) is located at the bottom right of the Data Table.

	Channel Name	Low Value	HI Alarm	LO Alarm	Hysteresis	Alarm Enabled	Selected
0	Left Wing/ch10 (e)	-0.051	0	NaN	0	<input type="checkbox"/>	<input type="checkbox"/>
1	Right Wing/rh13 (e)	-0.002	NaN	NaN	0	<input type="checkbox"/>	<input type="checkbox"/>
2	Right Wing/rh14 (e)	0.005	NaN	NaN	0	<input type="checkbox"/>	<input type="checkbox"/>
3	Right Wing/rh15 (e)	0.014	NaN	NaN	0	<input type="checkbox"/>	<input type="checkbox"/>
4	Right Wing/rh16 (e)	-0.027	NaN	NaN	0	<input type="checkbox"/>	<input type="checkbox"/>
5	Right Wing/rh31 (e)	0.013	NaN	NaN	0	<input type="checkbox"/>	<input type="checkbox"/>

1. Home
2. Saved Graphs
3. Saved Alarm Rules
4. Launch New Graph
5. Alarms
6. Note

### Home

The **Home** page provides a full list of the channels that are configured in the test system. Use this page to select channels, configure alarm thresholds for specific channels, view alarms, and

add notes to the log file. Refer to the following list for more information about each control on the **Home** page.

- **Channel Filter**—Search for the specific channel(s) that you are interested in viewing. The search filter is case sensitive.
- **Channel List**—Select the channel of interest from the **Channel List**. The total number of channels configured in the test system appear in the **Total Channels** field.
- **Data Table**—View expanded channel information on channels you selected from the **Channel List**. Use the controls in the **Data Table** to *configure and enable alarms* and *view the live data for multiple channels*.

## Launch New Graph

Open a graph in a separate browser tab to view the live values for specified channels in detail. Refer to *Viewing Channel Data* on page 5 for more information.

## Alarms

View alarm instances of a specific channel. If the alarm rules configured in the **Data Table** are met, an alarm is triggered and all alarm instances are displayed in the **Alarms** list until cleared. Clear the **Alarm Enabled** checkbox on a channel in the **Data Table** to disable the alarm rule for that channel. Refer to *Configuring Alarms* on page 4 for more information about clearing and acknowledging alarms.



**Tip** Press <Ctrl> to select multiple alarms from **Alarms** to launch or delete at the same time.

## Note

Enter comments in the **Note** field. The comments are added to the test log file and include your username and a timestamp.



**Tip** The channel name is not automatically recorded in comments, so include the channel name in the comments as necessary.

## Saved Graphs

The **Saved Graphs** page displays a list of all graphs that you launched from the **Home** page. Refer to the following list for more information about the controls on the **Saved Graphs** page.

- Click **Launch** to open an existing graph in a new browser tab.
- Click **Delete** to remove a graph.



**Tip** Press <Ctrl> to select multiple graphs from **Graphs** to launch or delete at the same time.

## Saved Alarm Rules

The **Saved Alarm Rules** page displays all **Alarm Rules** that you have configured on the **Home** page and whether the alarm is enabled or disabled. Click **Delete** to delete and clear alarm rules for a specified channel. When you delete an alarm rule, the alarm values that you

configured for the specific channel in the **Data Table** on the **Home** page return to the default settings.

## Configuring Alarms

Complete the following steps to configure alarms for channels.

1. On the **Home** page of the Static Data Viewer, select the channel(s) from the **Channel List**.
2. In the **Data Table**, specify a value for the **HI Alarm** (high) and/or **LO Alarm** (low) thresholds in the channel row for which you want to configure an alarm rule.



**Note** The default value for alarm rules is NaN, which indicates that an alarm rule does not exist for a channel regardless of the **Hysteresis** and **Alarm Enabled** fields.

3. Specify the **Hysteresis** value for the alarm threshold. Use hysteresis to reduce recurrent alarms on channels with fluctuating live values. The same hysteresis value is applied to both the **HI Alarm** and **LO Alarm** rules.

Alarm Example	Behavior
<b>HI Alarm</b> is set to 2 and <b>Hysteresis</b> is set to 1	<ul style="list-style-type: none"><li>• The alarm becomes active when the channel value is greater than the <b>HI Alarm</b> threshold.</li><li>• The alarm becomes inactive when the channel value passes below the <b>HI Alarm</b> threshold minus the <b>Hysteresis</b> value (<math>2 - 1 = 1</math>). The alarm becomes inactive (not cleared) when the channel value is 1 or lower.</li></ul>
<b>LO Alarm</b> is set to 0 and <b>Hysteresis</b> is set to 0.5	<ul style="list-style-type: none"><li>• The alarm becomes active when the channel value is less than the <b>LO Alarm</b> threshold.</li><li>• The alarm becomes inactive when the channel value passes above the <b>LO Alarm</b> threshold plus the <b>Hysteresis</b> value (<math>0 + 0.5 = 0.5</math>). The alarm becomes inactive (not cleared) when the channel value is 0.5 or greater.</li></ul>

4. Select the **Alarm Enabled** checkbox to initiate the alarm rule evaluation.



**Tip** Click **Disable All** to batch disable the configured alarms. To clear configured alarm values and return the values to default, you must delete the alarm rule from the **Saved Alarm Rules** page.

If an alarm threshold for a specific channel is met, the channel appears in the **Alarms** field. Click **Clear** to remove an alarm instance from the **Alarms** field. Refer to the following table for more information about alarm states.

Alarm State	Description
Active (Red)	The alarm is active and has not been acknowledged.
Inactive (Clear)	The alarm for the channel is inactive.
Active (Yellow)	The alarm has been acknowledged. Click <b>Acknowledge Alarm</b> to acknowledge the alarm instance.

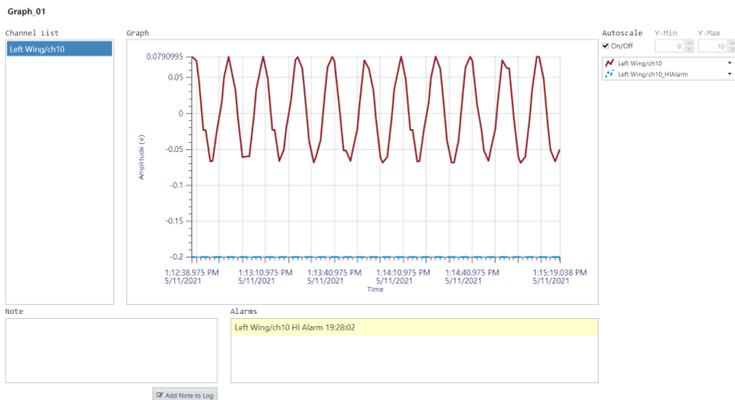
## Viewing Channel Data

Complete the following steps to view live channel data.

1. On the **Home** page of the Static Data Viewer, view the **Live Values** of a specific channel in the **Data Table**.
2. To view the channel data as a graph, check the **Selected** checkbox on a channel or multiple channels to group, then click **Launch New Graph**.

The graph for the specified channel launches in a new browser tab and is automatically saved to the **Saved Graphs** page.

**Figure 2. Live Graph Example**



3. Use the **Autoscale On/Off** checkbox to change the size of the plot for your specific needs.
4. Use the graph legend to change plot properties.
5. View the list of **Alarms** and alarm states for the specific channels in the graph. You can acknowledge and clear alarms only from the **Alarms** list on the **Home** page.
6. Add a **Note** to annotate the log file.
7. Rename the graph title that appears above the **Channel List**. The graph name automatically updates in the **Graph List** on the **Saved Graphs** page.

Closing the browser tab automatically saves the launched graphs. You can access the saved graphs from the **Saved Graphs** page when you log back into the Static Data Viewer.

# Error Reporting

All errors for the Static Data Viewer are reported in your web browser console. Static Data Viewer errors contain an error code and source message.



**Tip** You can open the Google Chrome Console in Developer Tools by pressing <Ctrl-Shift-I>.

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378632A-01 July 23, 2021