

Description: Guide to using TrendWorX64 Viewer

OS Requirement: Windows Server 2003 x64/Vista x64/ Server 2008 x64/Windows 7 x64/ Server 2008 R2 x64

General Requirement: General understanding of GENESIS64, TrendWorX64 Logger or Hyper Historian.

Introduction

TrendWorX64 Viewer is a tool that enables users to visualize real-time or historical trending of their OPC Server tags. It supports a full set of configuration options and runtime options.

Some of the useful features that TrendWorX64 Viewer offers include:

- Add multiple tab, charts, plot, and pens in one viewer.
- Set simple color alarms on pen values.
- Runtime freeze mode for easy value-reading.
- Dynamically add a pen to the viewer in runtime.
- Configurable runtime legend grid.

In this Application Note, we will walk you through a simple example of how to create a real-time and historical TrendWorX64 Viewer.

Real-time Trending

To add a TrendWorX64 Viewer for a real time data tag, you want to make sure that you have your OPC Server configured and running. In this example, we will use ICONICS Simulator OPC Server.

1. Create a new GraphWorX64 display by clicking on Start → All Programs → ICONICS → GENESIS64 → GraphWorX64 → GraphWorX64.
2. Select Controls Ribbon Bar and click on TrendWorX64 Viewer.
3. Click on the empty display to drop the TrendWorX64 Viewer control.
4. Double-click on the control to bring up TrendWorX Viewer configurator.
5. Right-click on Chart to create a new plot.
6. Right-click on Plot to create a new pen. Highlight Pen.
7. Click on ellipsis button on Data Source to pick a data tag from Unified Data Browser.
8. Browse to: Home → OPC Classic Servers → My Server → ICONICS.Simulator.1 → SimulatePLC → Ramp as in Figure 1. Click OK.

NOTE: Another path to a Ramp data tag: Home → OPC Classic Servers → My Server → Simulations → Double → Ramp

9. Click on Advanced Configuration and make sure 'Use DA Connection' is checked.
10. Close the configurator and go into runtime.

You should see a real-time trending now with time moving horizontally towards the left.

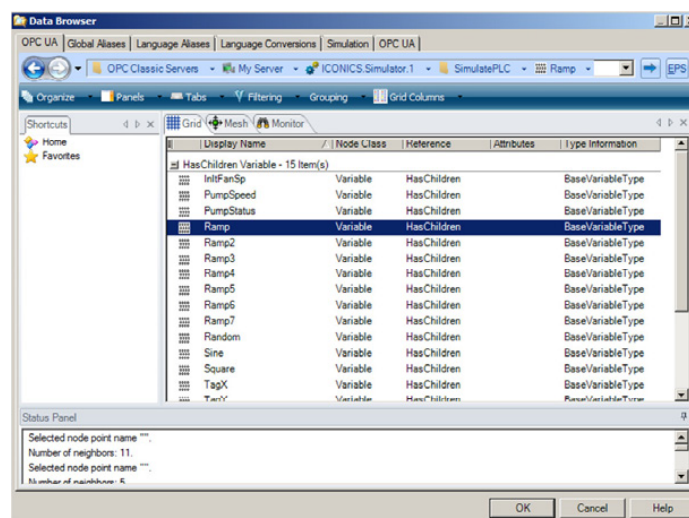


Figure 1 -- Browsing to a real time tag

Historical Trending

Historical trending can be configured very similarly. Before you do historical trending, you want to make sure that you have some data already logged either by TrendWorX64 Logger or Hyper Historian. In this example, we are using the sample TrendWorX64 logger configuration. Remember to keep the logger running during runtime so we would have data coming onto the chart. Follow the steps for real-time trending until step 8. In Data Source field, you can browse to the following item as shown in Figure 2:

Home → Historical Data → TrendWorX64 → Database Group → Logging Group → Sine.

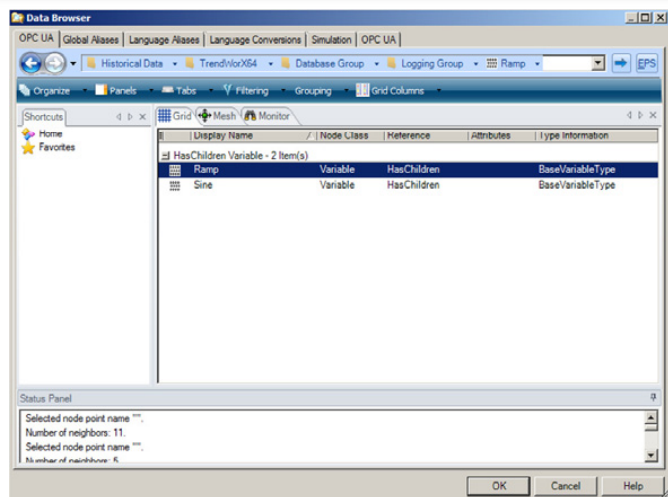


Figure 2 -- Browsing to a historical tag

Click on Advanced configuration and make sure that Use HDA Connection is checked. Use Interpolative as the aggregate type. Click OK.

For all other steps, follow the same steps for real-time trending. In the end, go into runtime and you should be the historical trending being drawn.

Common Configuration Parameters

The most important parameters to set for any trend are trend period and collection rate. You set them in the TrendWorX64 Viewer configurator at the chart level under Time & Rate tab as shown in Figure 3.

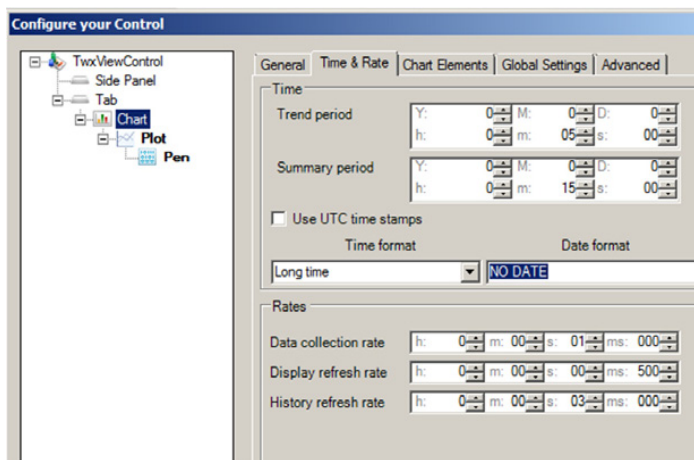


Figure 3 – Setting trend period and collection rate

Trend period defines what range of data to show on the viewer.
Data collection rate defines how dense you want the points to

be on the chart. For real-time trending, a new point will be added to the trend for every collection period. In historical trending, if the loggers log one point per 10 seconds, a collection rate of 20 seconds will skip every other point and give you one point that could be the average, max and min depending on the aggregate type you have set earlier.

Together, trend period and data collection rate determine how many points the Viewer will load. Setting a reasonable trend period and data collection rate will make sure that you have a fast response without excessive delay when first loading the TrendWorX64 Viewer.

Additionally, TrendWorX64 Viewer in GENESIS64 10.70 provides a new feature that allows you to define the simple limit alarms on each pen under the Alarm tab as shown in Figure 4. You can now define threshold values for *High High*, *High*, *Low*, *Low Low* alarms and see different styles for that pen during alarm conditions.

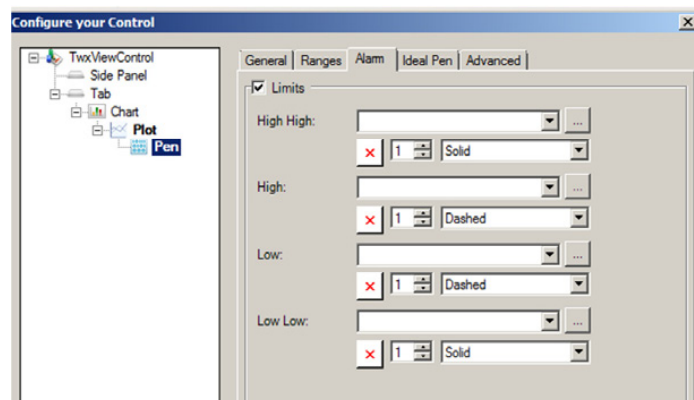


Figure 4 – Set alarms on a pen

Runtime Options

In TrendWorX64 viewer runtime, double click on the trend and you will see the runtime bar as shown in Figure 5.



Figure 5– TrendWorX64 Viewer runtime control

This runtime bar provides you with many options such as adding a new pen in runtime, switching XY axis, zooming in on the chart, pause the trending, refresh the trend, print the trend etc. Tool tips are provided when you hover on each icon so you can learn more about what each of them does.