



TrendWorX64 Viewer Getting Started



APPLICATION NOTE

October 2015

Description: Guide to using TrendWorX64 Viewer.

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 plots 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 configure a TrendWorX64 Viewer to show historical and real-time data.

Historical Trending

Before you set up a TrendWorX64 Viewer with historical trending, you want to make sure that you have some data already logged either by Hyper Historian or the TrendWorX64 Logger. In this example, we will use the data logged by the sample Hyper Historian configuration. Remember to keep the logger running during runtime so there will be data coming into the chart.

1. Create a new GraphWorX64 display by clicking on Start → All Programs → ICONICS → GENESIS64 → GraphWorX64 → **GraphWorX64**.
2. Select the Controls tab in the ribbon 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 TrendWorX64 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 to the right of **Data Source** to pick a data tag from Unified Data Browser.
8. Browse to My Computer > Data Sources > OPC Historical > Hyper Historian > Configuration > Various Signals > Ramp Med. After you select the signal, click OK (see Figure 1).
9. Click on Advanced configuration and make sure that Use HDA Connection is checked.

10. Use End as the Aggregate type (select it from the dropdown menu labeled Filter). Click OK.
11. Close the TrendWorX Viewer configurator and go into runtime – you should see the historical trending being drawn.

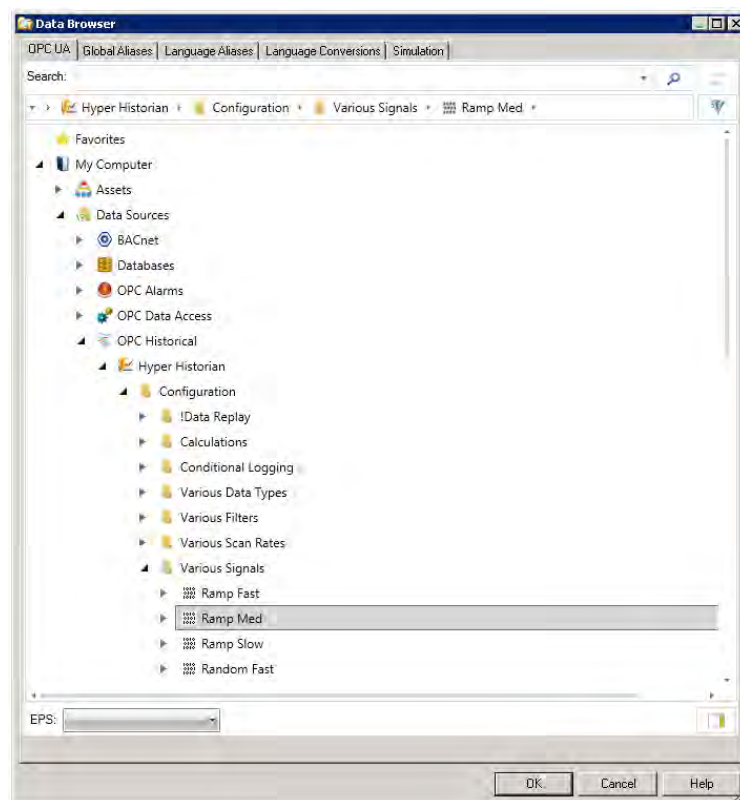


Figure 1: Browsing to a historical tag

Adding Pens Using Drag and Drop

You can also add a pen to a TrendWorX Viewer using the drag-and-drop feature that is new for version 10.90.

1. Go back into Configure mode.
2. On the left side of your GraphWorX64 display, select the Data Browser tab (see Figure 2).

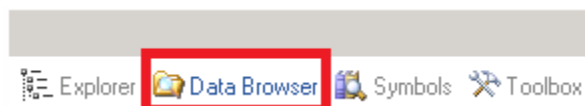


Figure 2: Opening the Data Browser in GraphWorX64

3. Browse to My Computer → Data Sources → OPC Historical → Hyper Historian → Configuration → Various Signals → Sine Med. Select the signal, and drag it onto your



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TrendWorX64 Viewer, and release. This will automatically add a new pen with that tag as the source.

4. Go into Runtime. Now your TrendWorX64 Viewer should show two signals, one Ramp and one Sine.

Adding Pens Using the Ribbon in Runtime

You can also add a pen to a TrendWorX Viewer while in Runtime.

1. While in Runtime, select the TrendWorX64 Viewer. The TrendWorX64 Runtime ribbon will appear at the top of your GraphWorX display.
2. On this ribbon, select "Pens" (see Figure 3). This will open your TrendWorX Viewer configuration and add a new pen.
3. Select the new pen, and browse to a Data Source as covered in the "Historical Trending" section of this application note. Click OK, and close the TrendWorX Viewer configuration. Your new pen should now show on the TrendWorX Viewer.

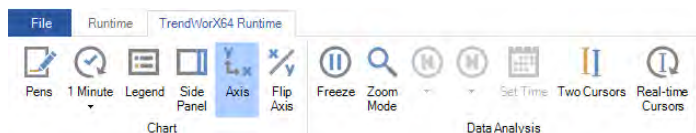


Figure 3: TrendWorX64 Runtime ribbon

Common Configuration Parameters

The most important parameters to set for any trend are the data collection rate and the trend period. You configure these in the TrendWorX64 Viewer configurator at the chart level. The data collection rate is under the Data tab, and the trend period is under the X Axis tab.

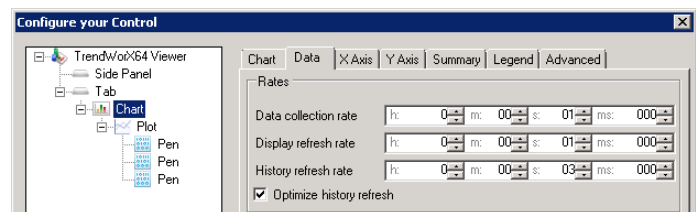


Figure 4: Setting Data Collection Rate

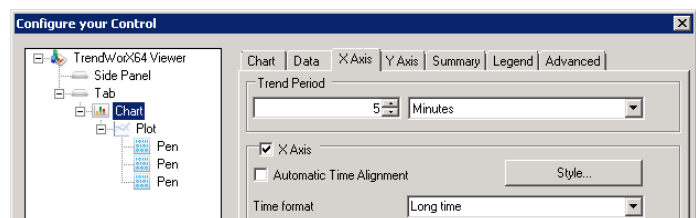


Figure 5: Setting the Trend Period

The **Trend Period** defines what range of data to show on the viewer. The **Data collection rate** defines how dense you want the points to be on the chart. 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. For real-time trending, a new point will be added to the trend for every collection period.

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, the TrendWorX64 Viewer provides a feature that allows you to define the simple limit alarms on each pen under the Calculations tab as shown in Figure 6. You can now define threshold values for *High High*, *High*, *Low*, and *Low Low* alarms and see different styles for that pen during alarm conditions.

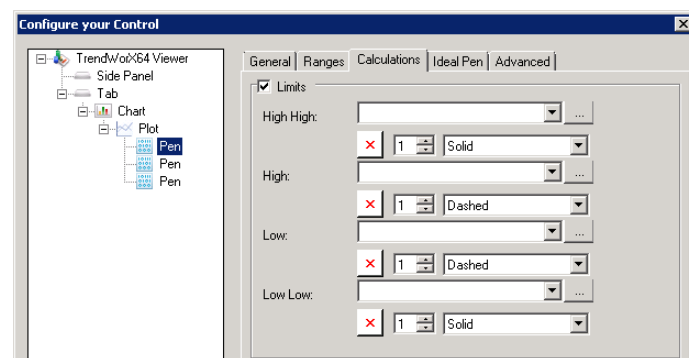


Figure 6: Set limit alarms on a pen

Runtime Options

In runtime mode, click on the TrendWorX64 Viewer and you will see the TrendWorX64 Runtime ribbon as shown in Figure 7.

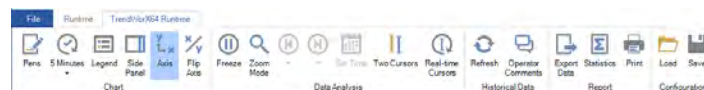


Figure 7: TrendWorX64 Viewer runtime ribbon

This runtime bar provides you with many options such as adding a new pen in runtime, swapping the X/Y axes, zooming in on the chart, pausing the trend, refreshing the trend, printing the trend,



TrendWorX64 Viewer Getting Started



APPLICATION NOTE

October 2015

etc. Tool tips are provided when you hover over each icon so you can learn more about what each icon does.

Real-time Trending

To add a TrendWorX64 Viewer for a real time data tag, 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 the Controls tab in the ribbon 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 the TrendWorX Viewer configurator.
5. Right-click on Chart to create a new Plot.
6. Right-click on Plot to create a new Pen. Select the Pen.
7. Click on ellipsis button on **Data Source** to pick a data tag from Unified Data Browser.
8. Browse to: Home → Data Sources → OPC Data Access → Simulations → Double → Ramp → FastL001 as in Figure 8. Click OK.

NOTE: You can also add real-time pens using the same Drag and Drop or Runtime methods covered earlier in this application note.

9. Click on **Advanced configuration** and make sure the 'Use DA Connection' radio button is selected. Click OK.

10. Close the configurator and go into runtime.

You should see the real-time trend data showing on the TrendWorX64 Viewer now.

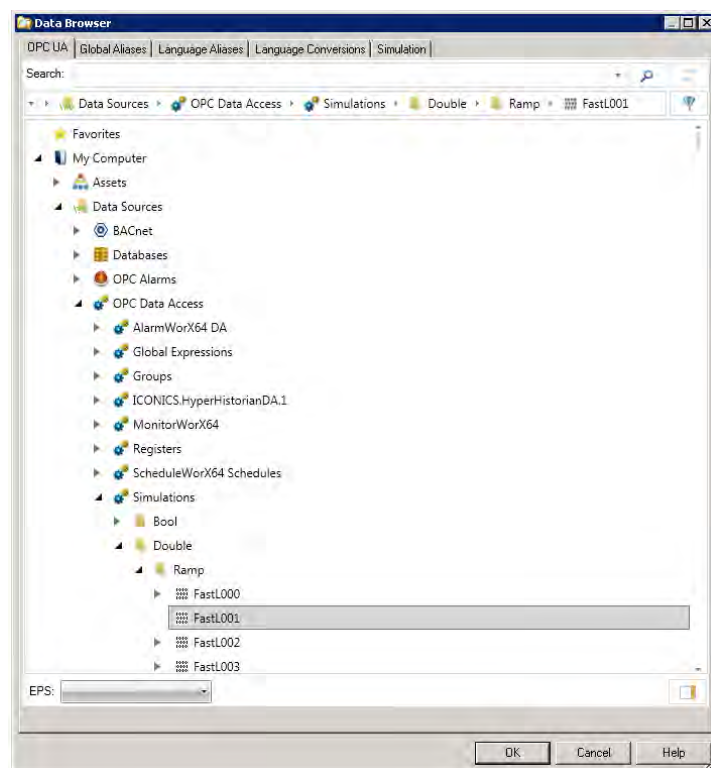


Figure 8: Browsing to a real time tag