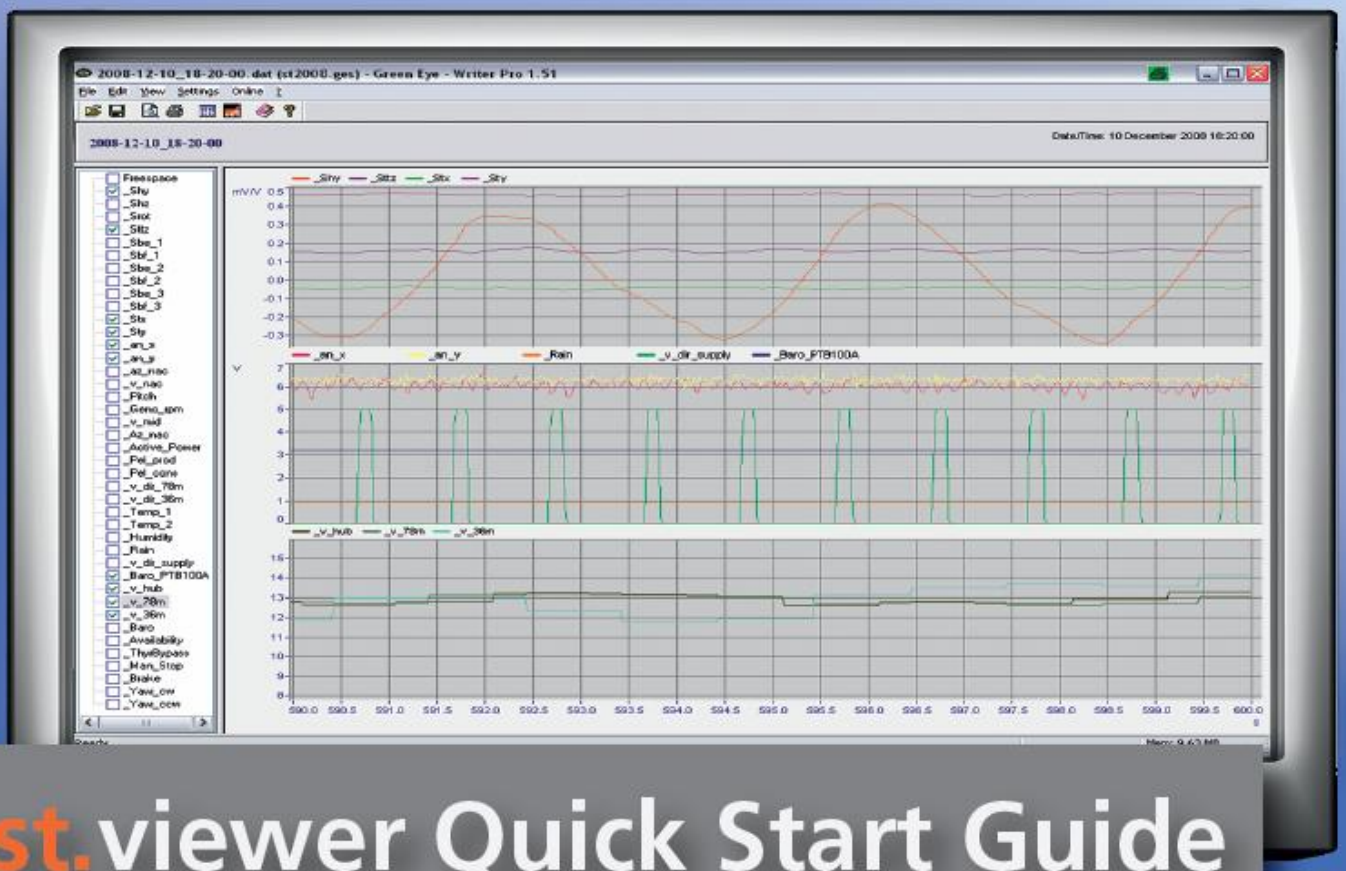
Gantner instruments

Data Acquisition and Control Solutions



test.viewer Quick Start Guide

The complete 'how to' guide for setting up and programming the Gantner Instruments test.viewer visualization & data acquisition software.

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Preparation

Introduction
Thank you for selecting Gantner Instruments as your data acquisition solution. This quick start guide will discuss how to use and take advantage of the test.viewer software tool as a part of your complete DAQ system. This tool is included with every copy of test.commander. The test.viewer program streams the data from the controller's buffer. This data can be analyzed and saved into various formats; tasks that are all accomplished within test.viewer.

Software Downloads
test.commander:
http://www.gantnerinstruments.com

test.viewer: http://www.gantnerinstruments.com

PC Requirements
Minimum OS: Windows XP
Recommended RAM: 4 GB
Recommended Processor: Dual Core (2+ GHz)
Data Storage: Depends on application requirement.
1 x Ethernet port (minimum)
1 x USB port (minimum)

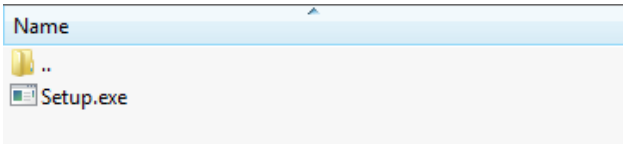
Accessories
CAT5 Ethernet Cable
DC Power Supply

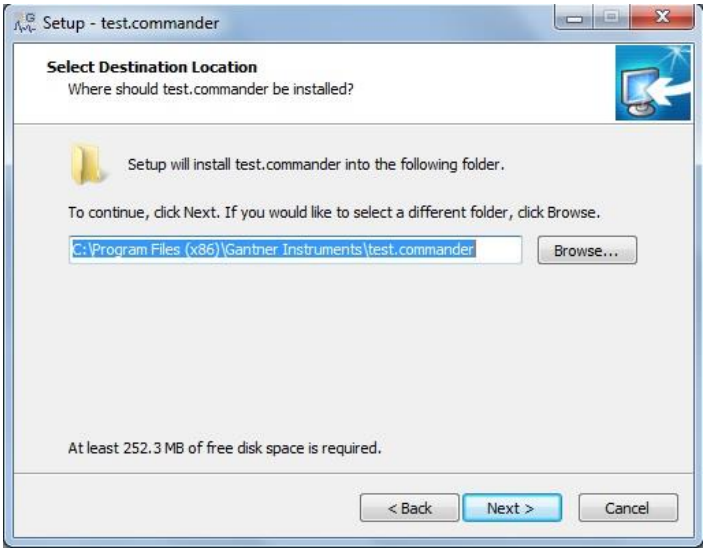
Software Installation

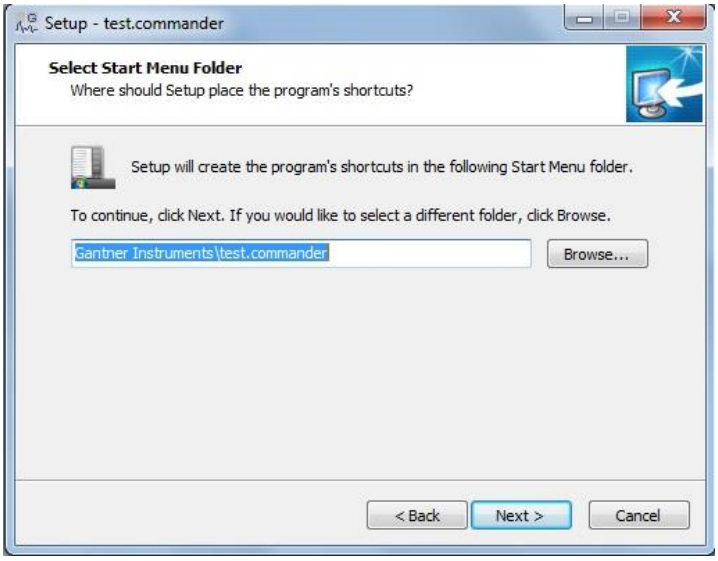
1. Install the test.commander software that was downloaded from the Gantner Instruments web site. A full version of test.viewer is included in the installation process.

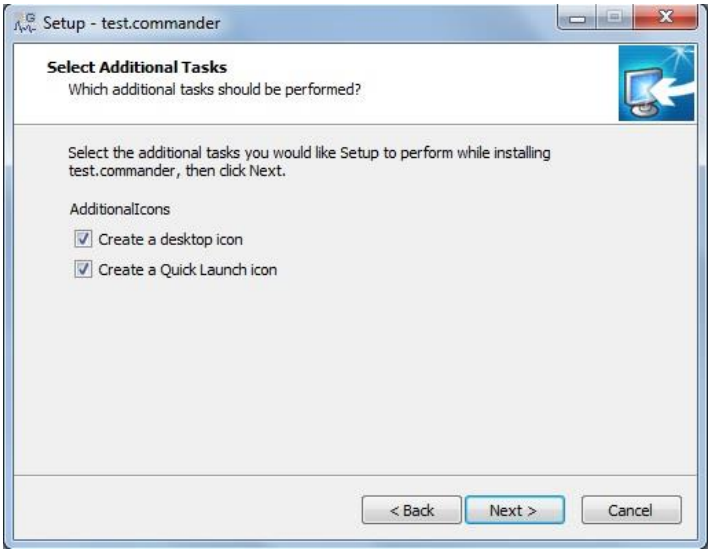
2. Unzip the installation file (test.commander.zip).

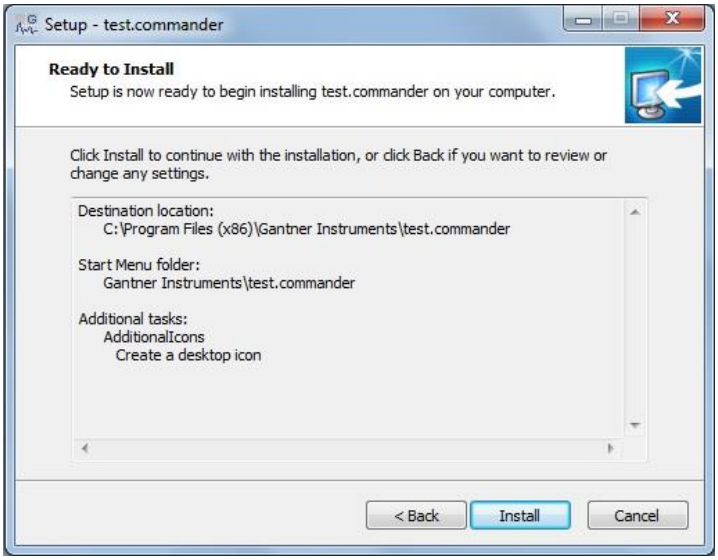
3. Within this unzipped folder is the Setup.exe file. Double-click on this file to start the installation process.

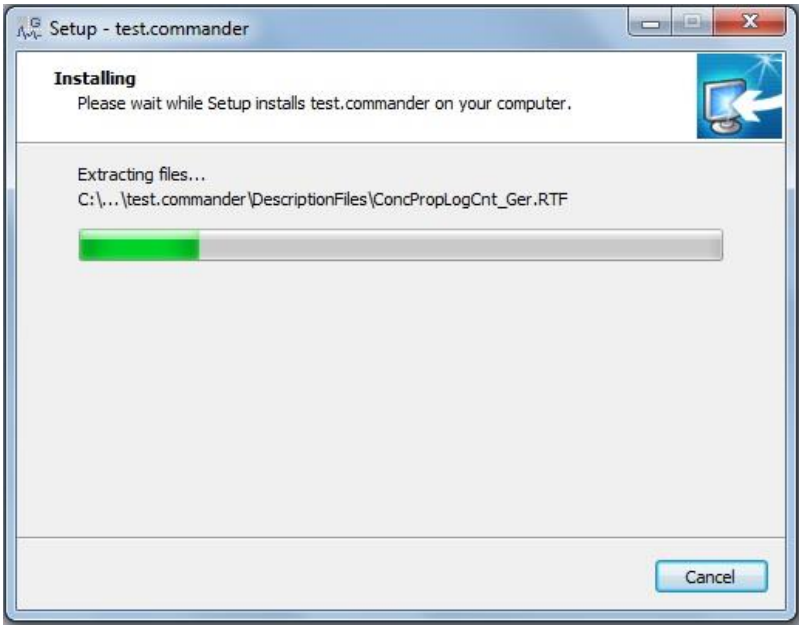





Setup - test.commander
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
Gantner Instruments\test.commander
Browse...
< Back
Next >
Cancel


Setup - test.commander
Select Additional Tasks
Which additional tasks should be performed?
Select the additional tasks you would like Setup to perform while installing test.commander, then click Next.
AdditionalIcons
Create a desktop icon
Create a Quick Launch icon
< Back
Next >
Cancel


Setup - test.commander
Ready to Install
Setup is now ready to begin installing test.commander on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\Program Files (x86)\Gantner Instruments\test.commander
Start Menu folder:
Gantner Instruments\test.commander
Additional tasks:
AdditionalIcons
Create a desktop icon
< Back
Install
Cancel



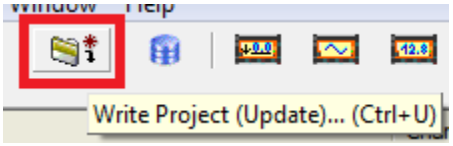
4. To install the newest version of test.viewer simply install the most up to date version of test.commander.

5. If test.commander is being installed on the PC for the very first time, it will require a license to convert the software from DEMO mode to LICENSED mode. Full functionality of test.viewer is not possible in DEMO mode.

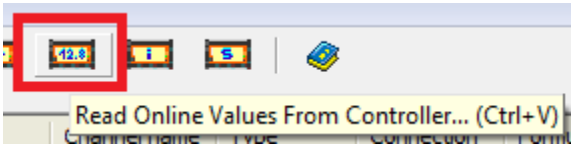
6. Make sure to prepare the hardware including all controller settings and channel configuration before starting test.viewer.

Starting test.viewer

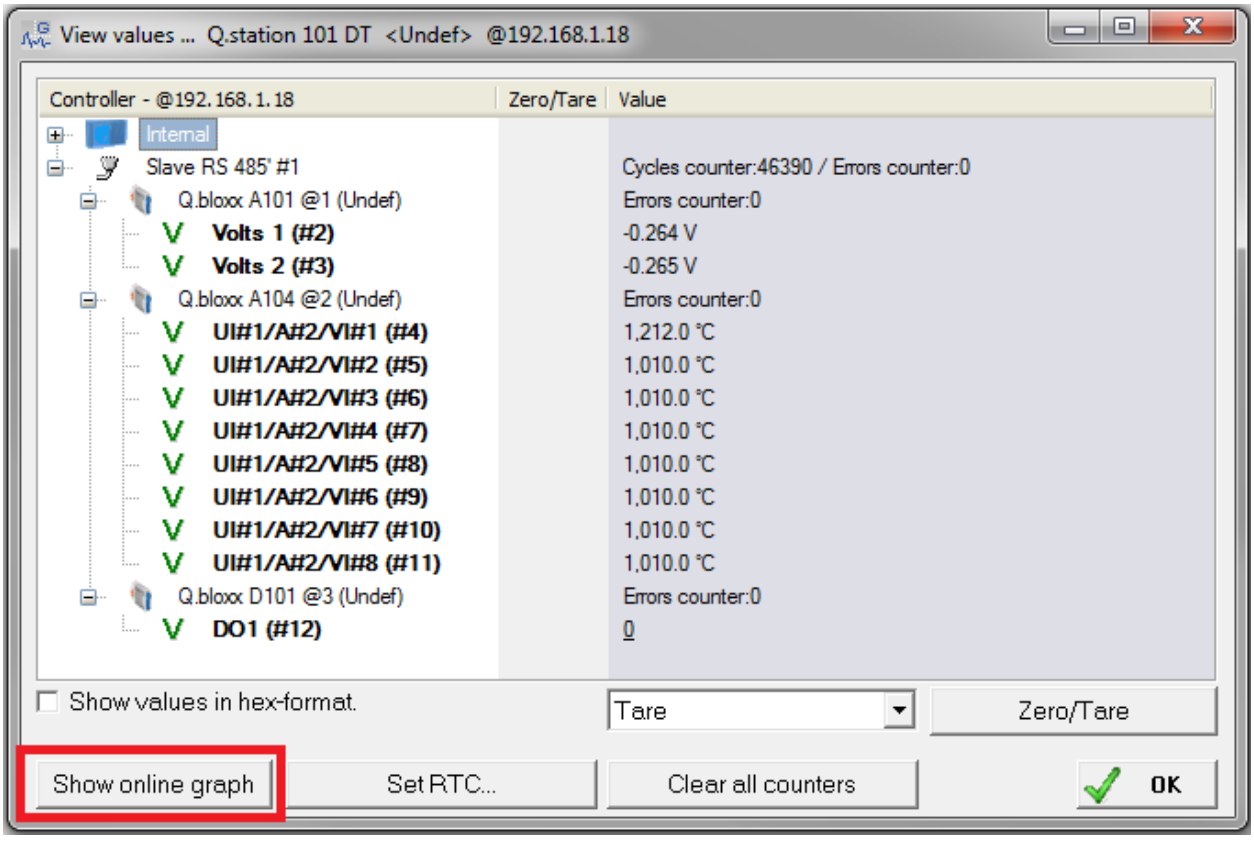
1. Make sure the entire system has been configured and updated.



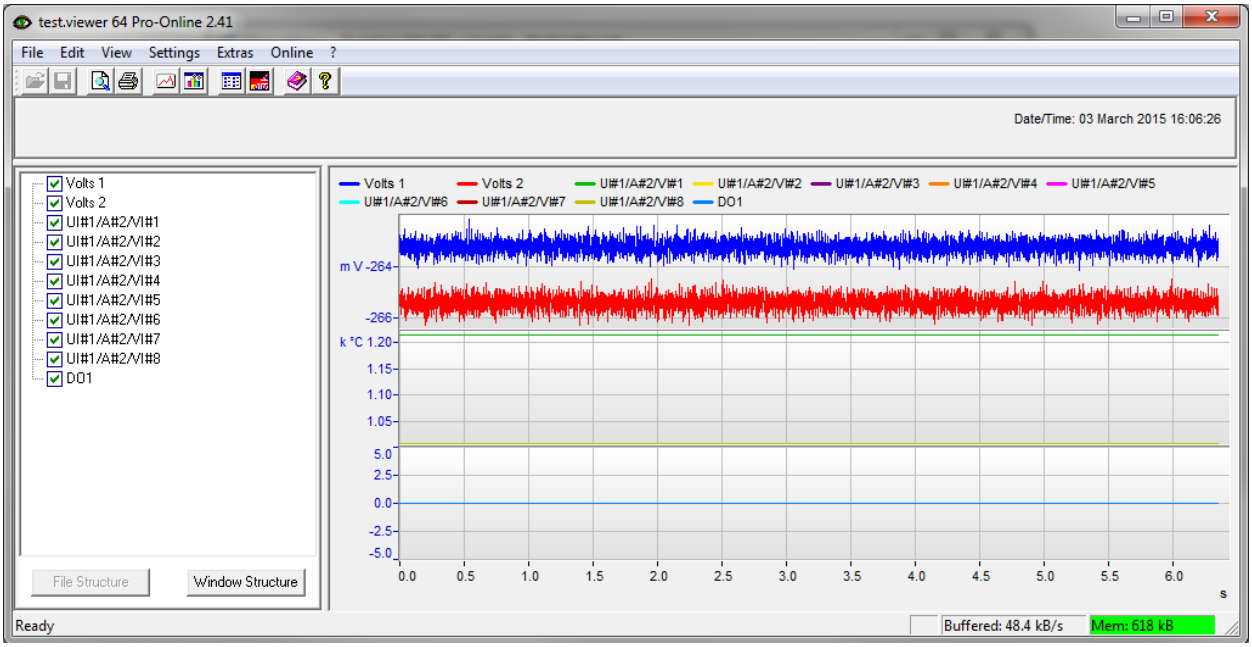
2. After updating, select the Read Online Values from Controller button.



3. The View values window will appear. Select the Show online graph button.



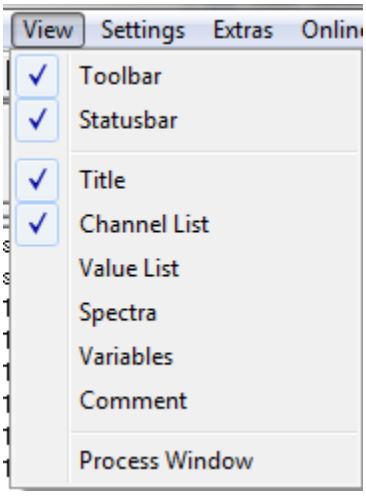
4. test.viewer starts and is already streaming live data.



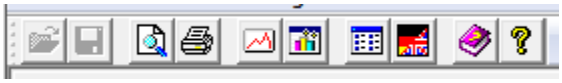
test.viewer Configuration

Window Configuration

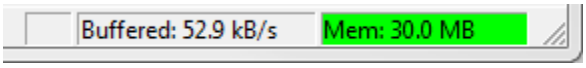
1. There are various windows that make up the entire test.viewer window. Select View in the toolbar to select which windows to display.



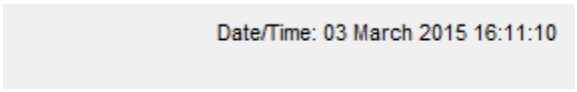
2. The Toolbar includes the saving icons, print icons, and various view icons.



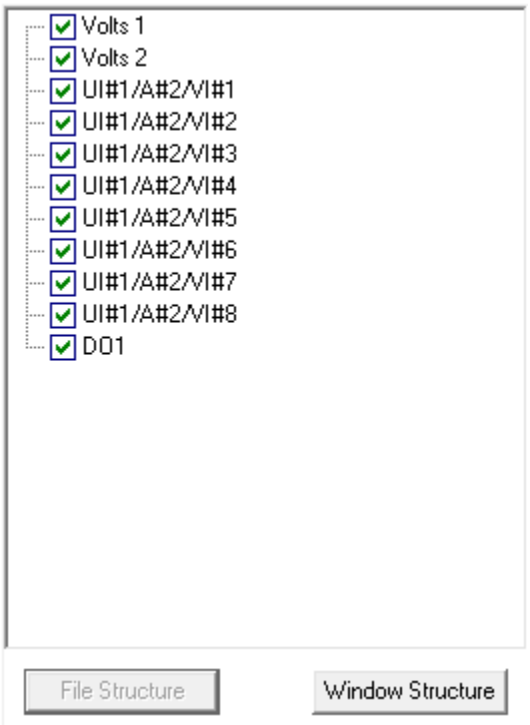
3. The Statusbar displays the rate at which the data is buffered and the total memory that is being used by test.viewer to stream the data.

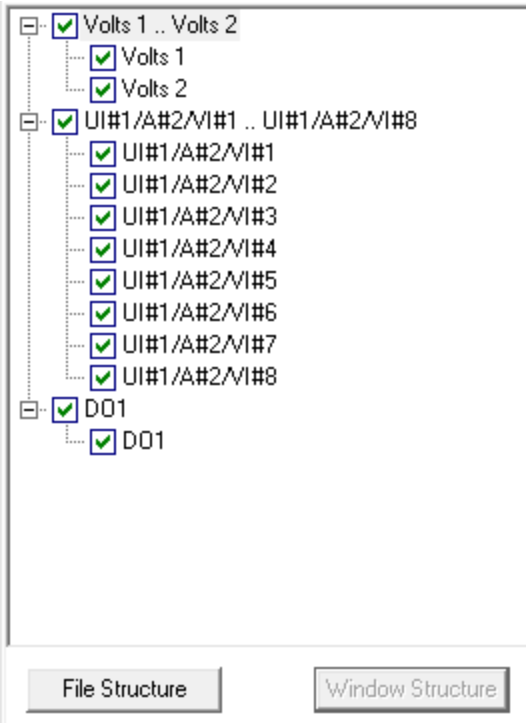


4. The Title displays the current date and time.



5. The Channel List displays all real and virtual variables available in the controller. Place a check mark next to the channels to display. Selecting the File Structure button displays all the channels in a list (left side image below) while selecting the Window Structure displays the channels into groups based on the measurement module (right side image below).

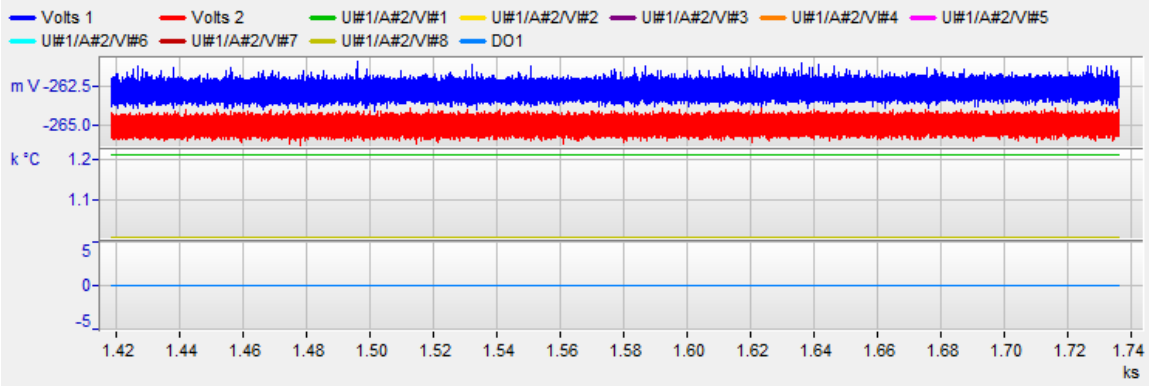




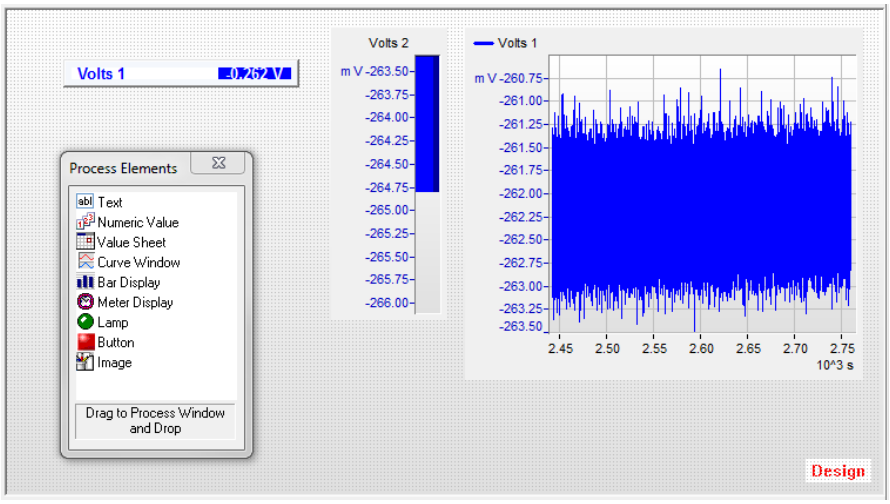
6. The Value List can display the current numerical value of any channel. Drag the channels from the Channel List to the Value List. Note: once a channel is added to the Channel List, it cannot be removed unless test.viewer is restarted.

Channel	Value
Volts 1	-263.271
Volts 2	-265.224

7. The Curve Window is the main portion of test.viewer. This section displays all the selected channels in a trend graph format. Channels can be combined in the same group or separated into individual graphs. The details for this section will be explained in more detail in a category below.

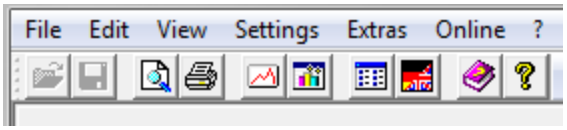


8. The Process Window can be used instead of the Curve Window. This section uses configurable Process Elements such as bar displays, meters, curves, and numeric to create a custom HMI. To add items to the main section, Process Elements are dragged from the selection window; channels are then dragged from the Channel List onto each Process Element. Further details for this section will be explained in a category below.

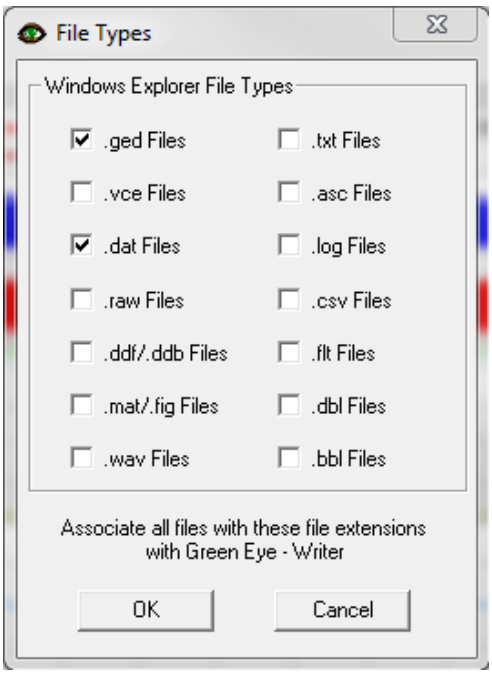


Settings

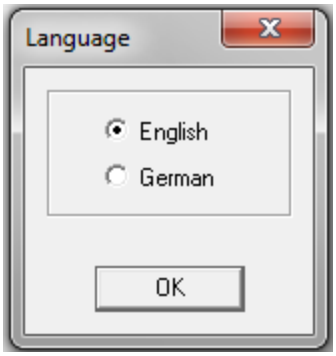
The settings menu can be accessed from the top toolbar.



1. FILE TYPES: An assortment of file types can be selected here. If a file type is selected, this file type will open in test.viewer by default. At the most basic level, we recommend selecting .ged and .dat files to be used with test.viewer.

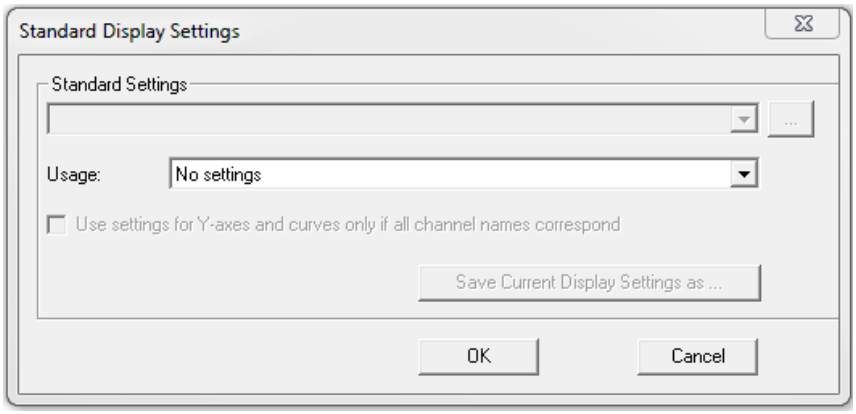


2. LANGUAGE: After first time installation, the language settings for test.viewer might be in German. To switch to English, select Einstellungen > Sprache (located in the top toolbar), then select English.

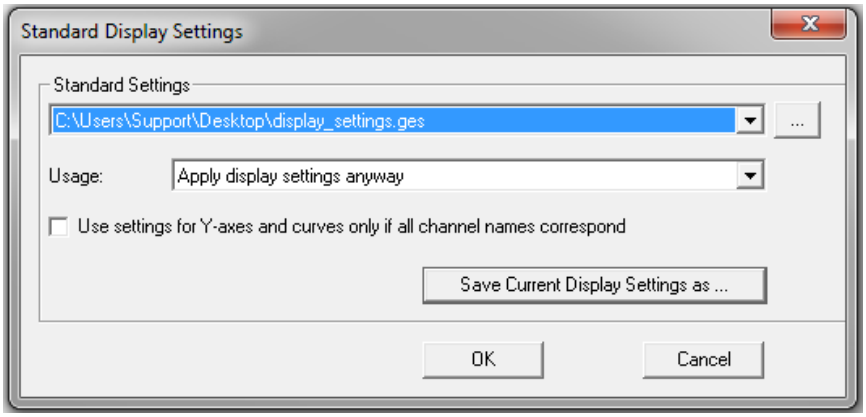


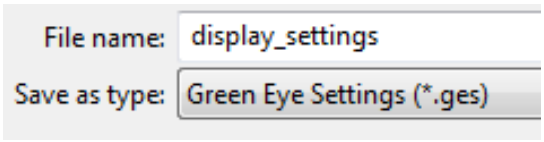
3. STANDARD DISPLAY SETTINGS: If a certain type of test is being performed and the curve window was modified (visual specifications) to fit the current test, these display settings can be saved for future instances of test.viewer. It is also possible to create a default display setting that test.viewer will use each time it is used.

   No Settings – If this option is selected, test.viewer will open using the internal default display settings.

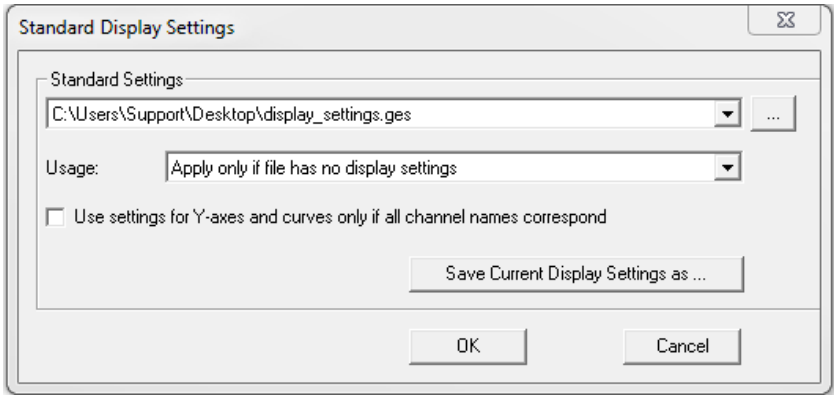


   Apply Display Settings Anyway – If this option is selected, test.viewer will use the display settings selected in the Standard Settings drop down menu. To create a display settings file click on the **Save Current Display Settings as** button (make sure to configure the curve window first to your desired look and feel). The file will have an extension of .ges (Green Eye Settings). After saving this file, it can be selected in the Standard Settings section.

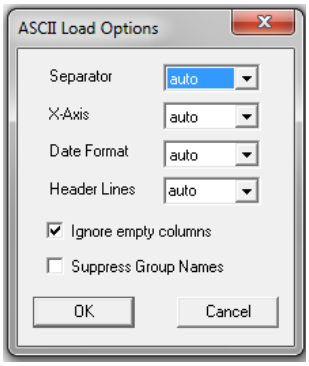




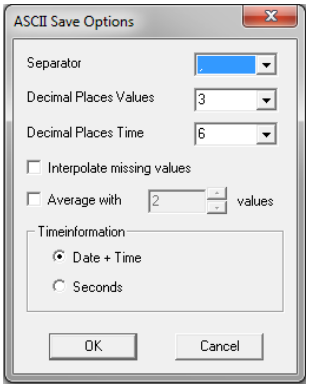
Apply Only if File has no Display Settings – Archived data files (i.e. .dat files) can be opened using test.viewer. Sometimes these files have display settings included. Selecting this option will use the data file's display settings first; if the file doesn't have any display settings it will use the settings from the file selected in the Standard Settings option.



4. ASCII LOAD OPTIONS: ASCII files can be opened using test.viewer. This section provides options on how these files are loaded into test.viewer.



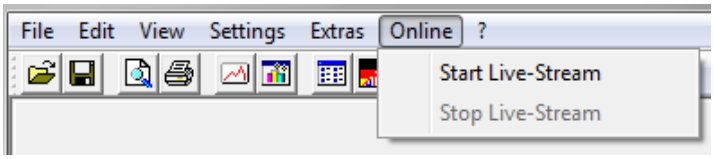
5. ASCII SAVE OPTIONS: The data that is streamed from the Gantner controller can be saved to a data file (i.e. .dat, .txt, .csv, etc.). The format in which the data is saved can be selected here.



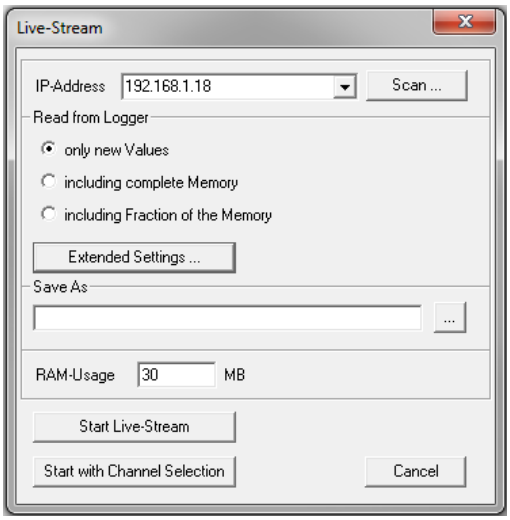
Data Streaming

The test.viewer software tool can be accessed in various ways. It can be started within test.commander or as a stand-alone tool. Starting test.viewer via the Read Online Values from Controller button automatically starts a live stream of data. Starting test.viewer as a stand-alone tool does not automatically start a live stream.

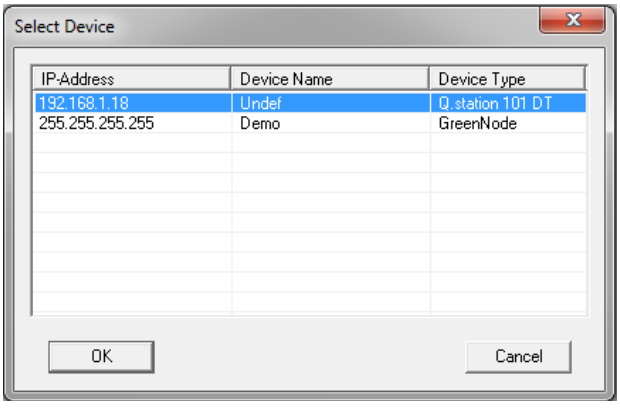
1. Depending on the current status of test.viewer, the data stream can be started or stopped at any time. Select Online > Start/Stop Live-Stream.



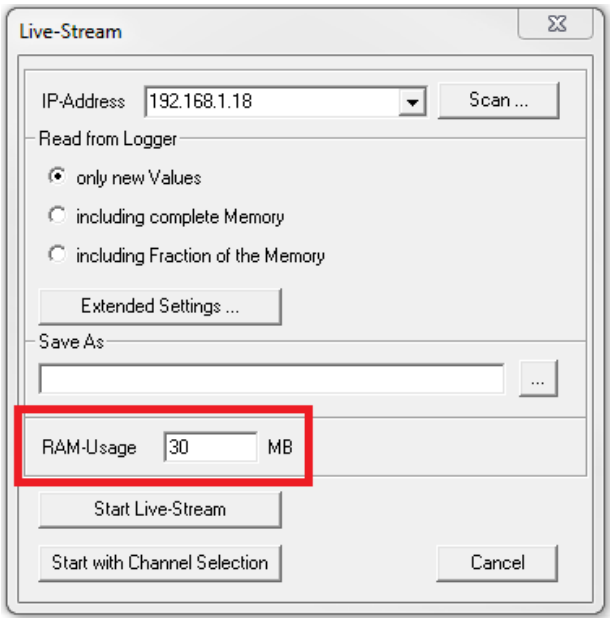
2. Starting a live stream provides various options before the acquisition process.



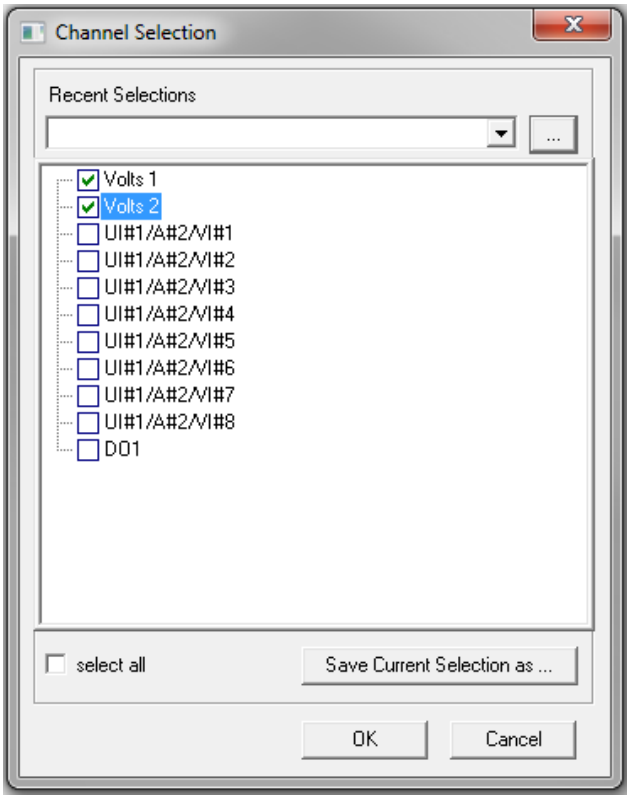
3. If multiple controllers are connected to the same network as the PC, selecting the Scan button will allow the user to select a specific controller.



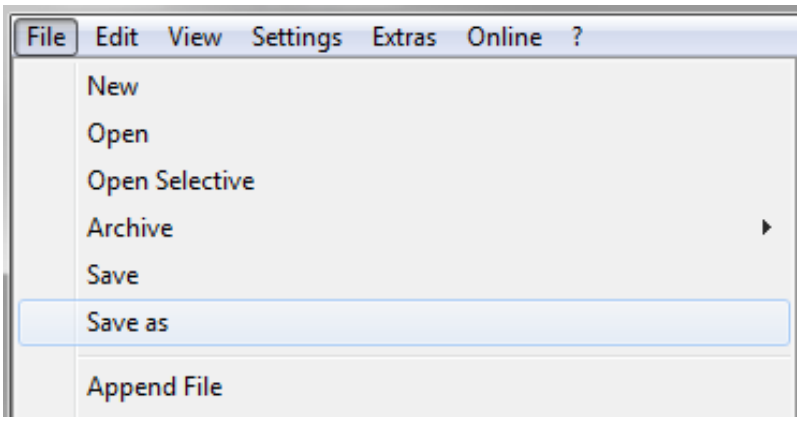
4. The amount of PC memory can be selected here:



5. The stream can be started by pressing the Start Live-Stream button. If only a certain number of channels need to be select, this can be performed by pressing the Start with Channel Selection button. Otherwise all channels will be included in the data stream.



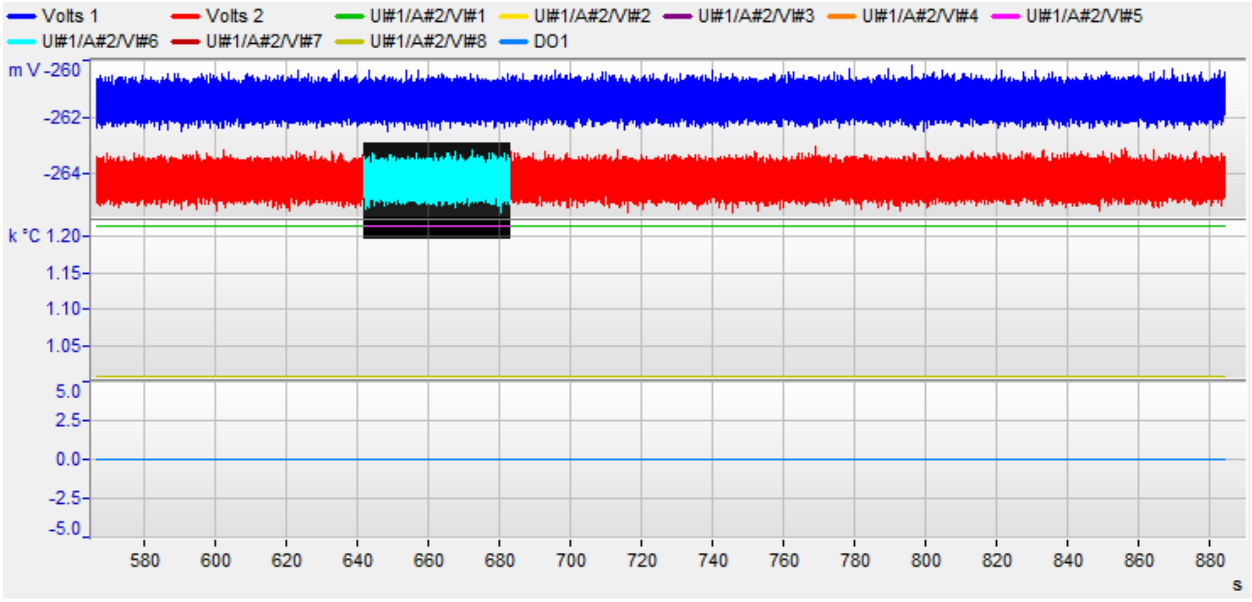
6. The data is being acquired and streamed in test.viewer. Selecting Online > Stop Live-Stream will provide the ability to save the data to a file. Select File > Save or Save As.



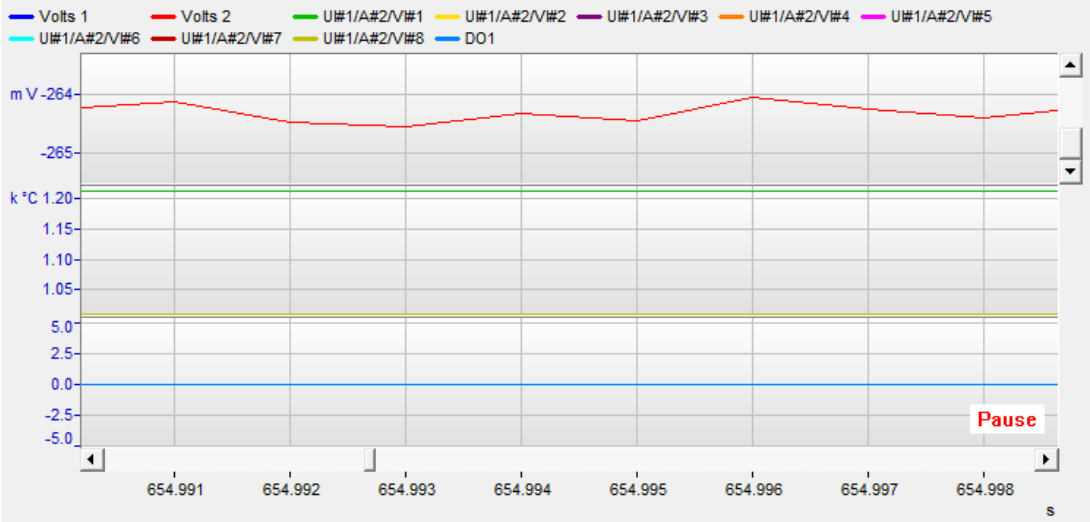
Curve Window Configuration

Zoom In/Out

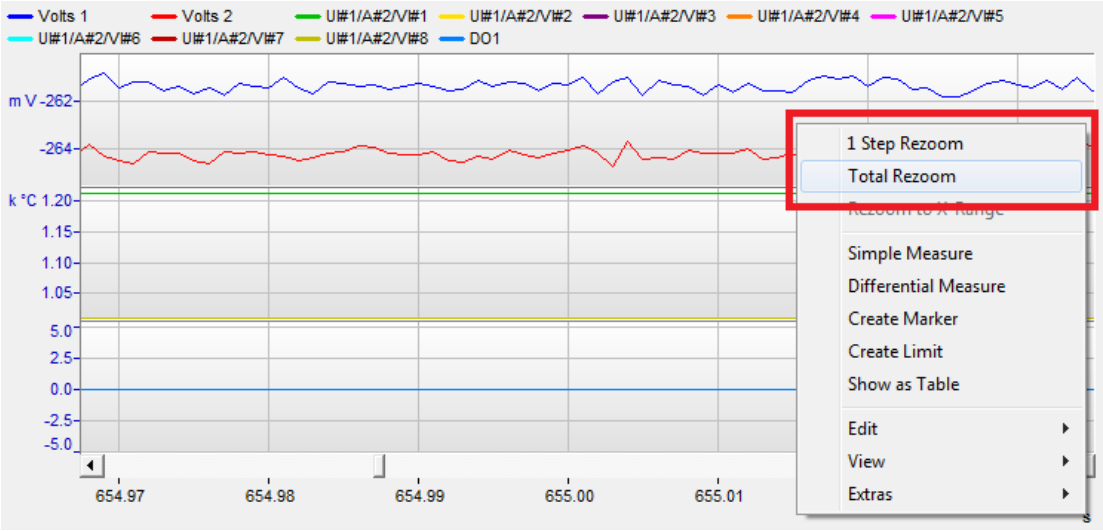
1. When data is streaming, it is possible to zoom in and zoom out on any portion of the curve(s). Click and drag the section of the curve(s) to zoom in.



2. Continue to zoom in until desired view is achieved. The current stream of data will be paused during the zoom in process (if the allotted memory has been reached).



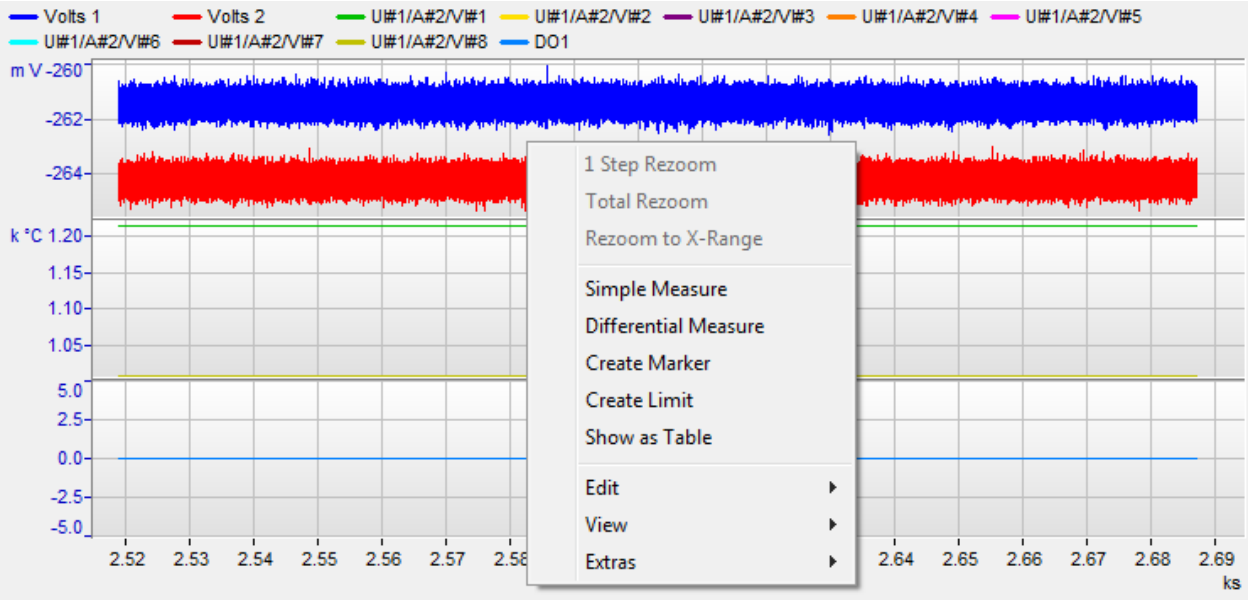
3. There are various options available to perform a zoom out. Right-click anywhere on the curve and select Step Zoom to zoom out 1 step previous or select total re-zoom to zoom out to the original view.



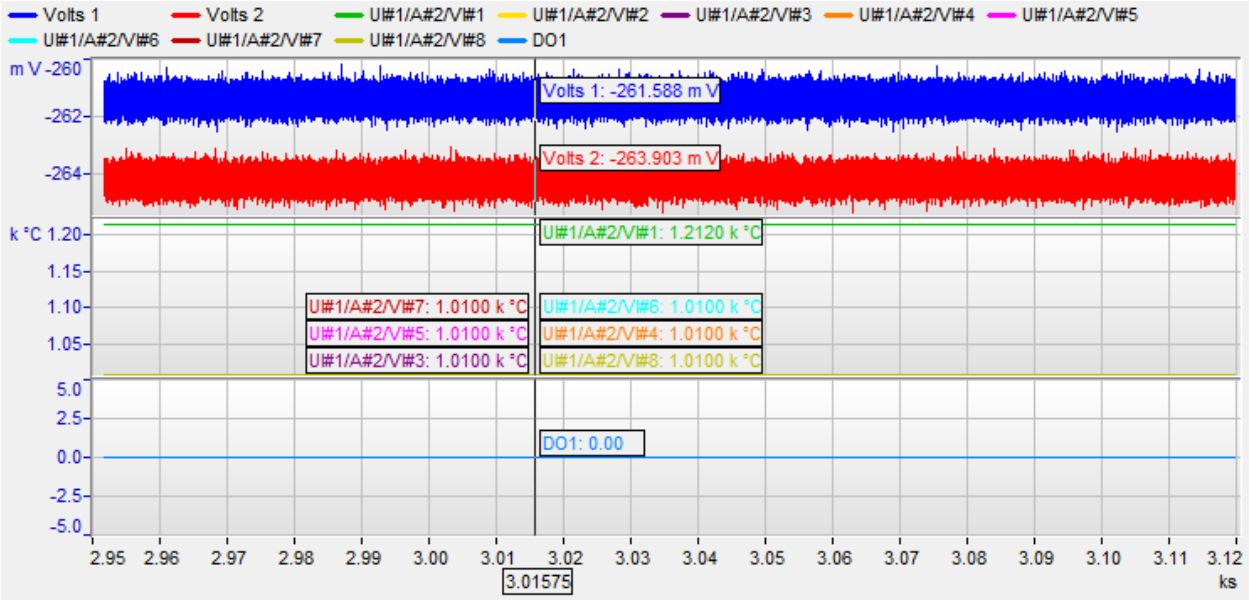
4. Performing a total re-zoom will provide the option to restart the data streaming process (if the data stream paused/disconnected).

Measuring Data

Right-clicking on the curve window will provide two measuring options: simple measure or differential measure.

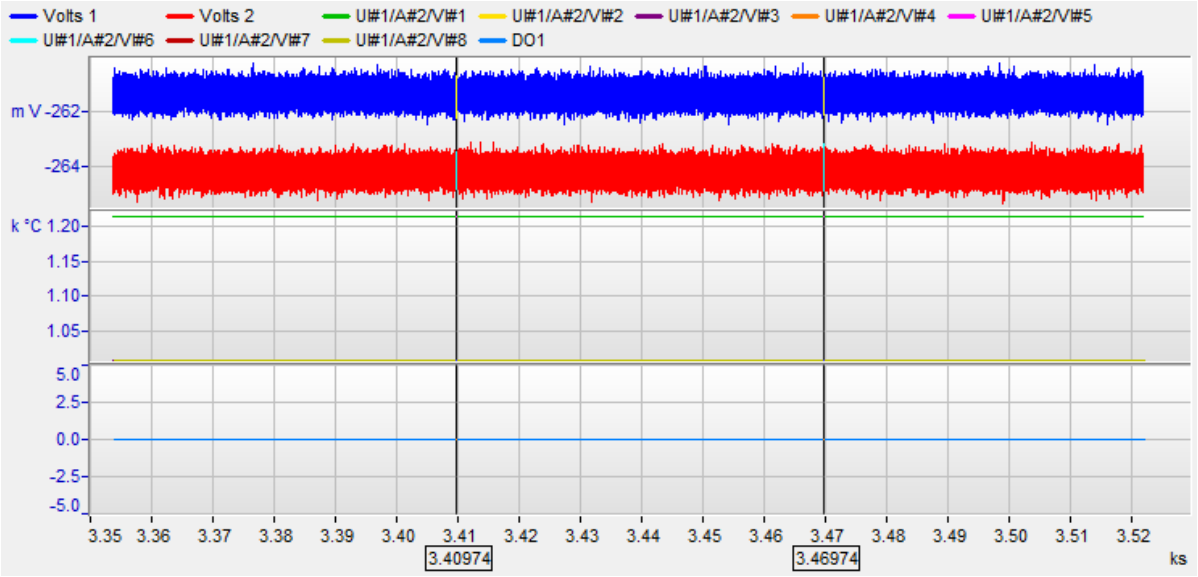


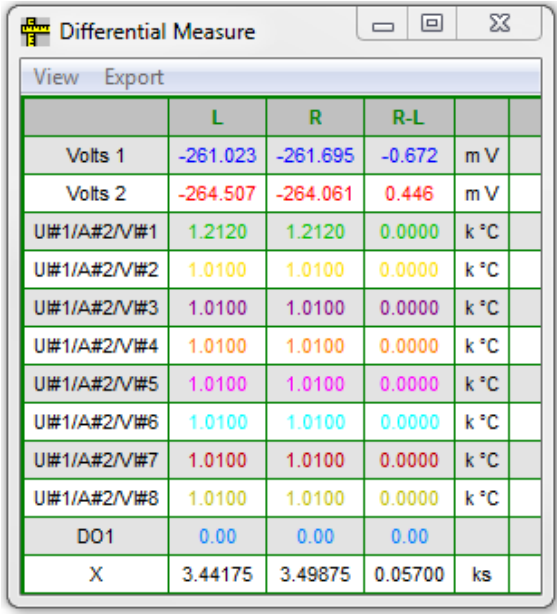
1. Selecting Simple Measure will provide a single cursor that can be dragged across the entire curve window. The measured value of every visible curve is displayed.



2. Right-click and deselect Simple Measure to remove the measurement cursor from the curve window.

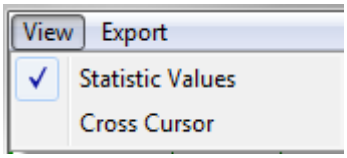
3. Selecting Differential Measure will provide two cursors and a differential measurement table of all visible channels. Drag each cursor to the desired time position. The table will display the current value of the left cursors, the current value of the right cursors, and the differential measurement.



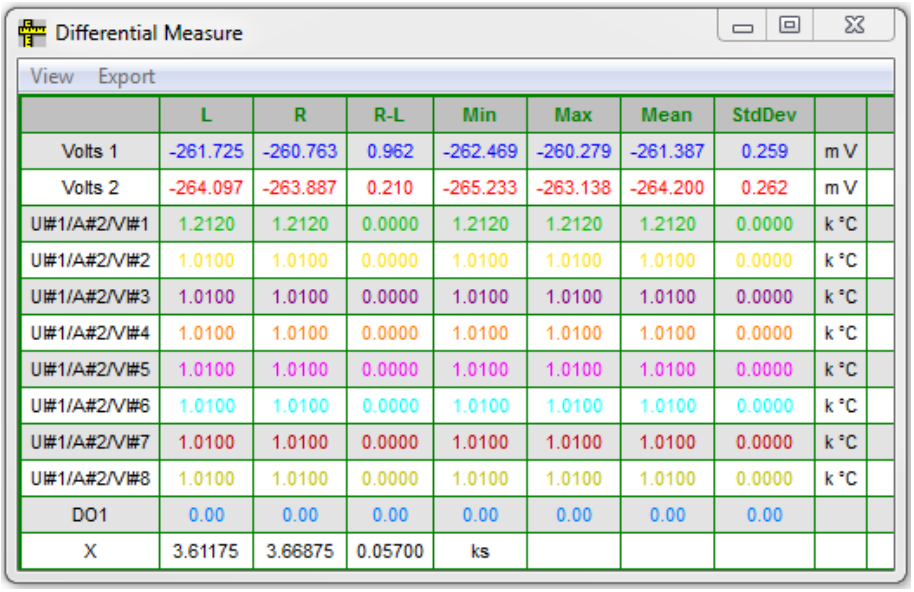


	L	R	R-L	
Volts 1	-261.023	-261.695	-0.672	m V
Volts 2	-264.507	-264.061	0.446	m V
U#1/A#2/V#1	1.2120	1.2120	0.0000	k °C
U#1/A#2/V#2	1.0100	1.0100	0.0000	k °C
U#1/A#2/V#3	1.0100	1.0100	0.0000	k °C
U#1/A#2/V#4	1.0100	1.0100	0.0000	k °C
U#1/A#2/V#5	1.0100	1.0100	0.0000	k °C
U#1/A#2/V#6	1.0100	1.0100	0.0000	k °C
U#1/A#2/V#7	1.0100	1.0100	0.0000	k °C
U#1/A#2/V#8	1.0100	1.0100	0.0000	k °C
DO1	0.00	0.00	0.00	
X	3.44175	3.49875	0.05700	ks

4. In the Differential Measure table, select View > Statistical Values to display additional information.

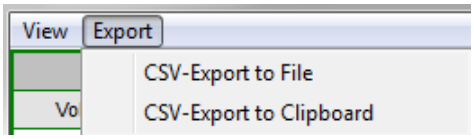


5. Min, Max, Mean, and Standard Deviation information are now included in the table.

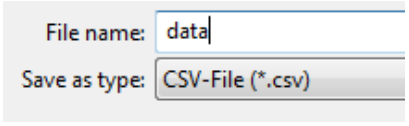


	L	R	R-L	Min	Max	Mean	StdDev		
Volts 1	-261.725	-260.763	0.962	-262.469	-260.279	-261.387	0.259	m V	
Volts 2	-264.097	-263.887	0.210	-265.233	-263.138	-264.200	0.262	m V	
UI#1/A#2/VI#1	1.2120	1.2120	0.0000	1.2120	1.2120	1.2120	0.0000	k °C	
UI#1/A#2/VI#2	1.0100	1.0100	0.0000	1.0100	1.0100	1.0100	0.0000	k °C	
UI#1/A#2/VI#3	1.0100	1.0100	0.0000	1.0100	1.0100	1.0100	0.0000	k °C	
UI#1/A#2/VI#4	1.0100	1.0100	0.0000	1.0100	1.0100	1.0100	0.0000	k °C	
UI#1/A#2/VI#5	1.0100	1.0100	0.0000	1.0100	1.0100	1.0100	0.0000	k °C	
UI#1/A#2/VI#6	1.0100	1.0100	0.0000	1.0100	1.0100	1.0100	0.0000	k °C	
UI#1/A#2/VI#7	1.0100	1.0100	0.0000	1.0100	1.0100	1.0100	0.0000	k °C	
UI#1/A#2/VI#8	1.0100	1.0100	0.0000	1.0100	1.0100	1.0100	0.0000	k °C	
DO1	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
X	3.61175	3.66875	0.05700	ks					

6. Within the Differential Measure window, it is possible to Export the contents of the table to a CSV file. Select Export > CSV-Export to File.



7. Give the file a name.

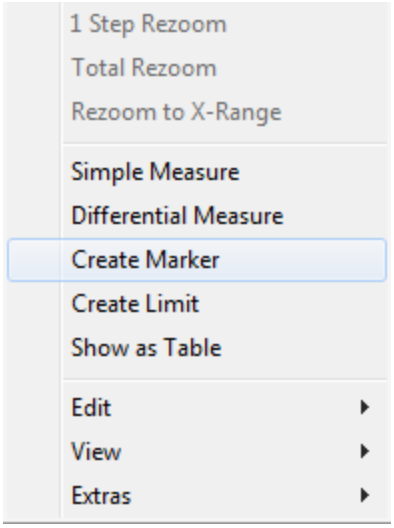


8. Data viewed in Excel:

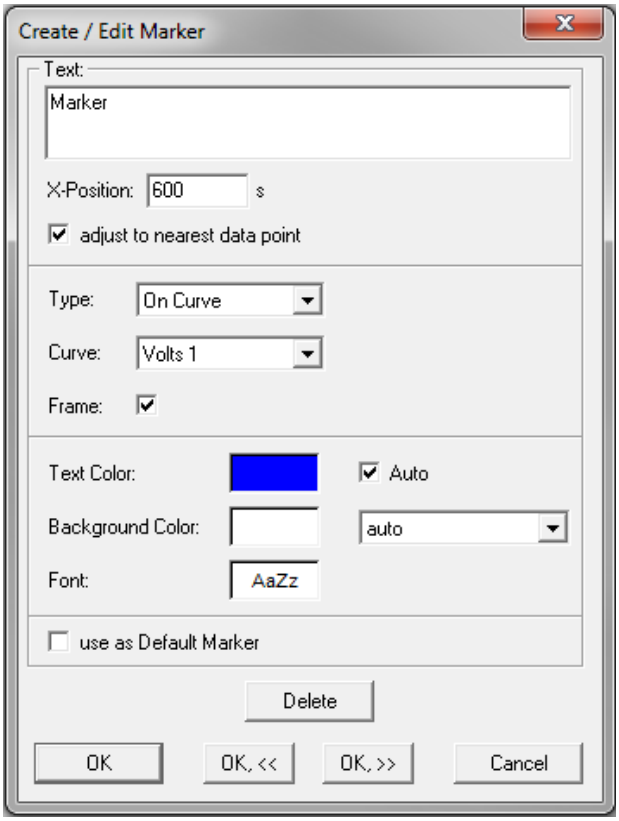
	A	B	C	D	E	F	G	H	I
1		L	R	R-L	Min	Max	Mean	StdDev	
2	Volts 1	-264.635	-264.437	0.198	-265.727	-263.531	-264.656	0.384	m V
3	Volts 2	-266.096	-266.148	-0.052	-267.1	-265.684	-266.397	0.25	m V
4	UI#1/A#2/VI#1	1.212	1.212	0	1.212	1.212	1.212	0	k °C
5	UI#1/A#2/VI#2	1.01	1.01	0	1.01	1.01	1.01	0	k °C
6	UI#1/A#2/VI#3	1.01	1.01	0	1.01	1.01	1.01	0	k °C
7	UI#1/A#2/VI#4	1.01	1.01	0	1.01	1.01	1.01	0	k °C
8	UI#1/A#2/VI#5	1.01	1.01	0	1.01	1.01	1.01	0	k °C
9	UI#1/A#2/VI#6	1.01	1.01	0	1.01	1.01	1.01	0	k °C
10	UI#1/A#2/VI#7	1.01	1.01	0	1.01	1.01	1.01	0	k °C
11	UI#1/A#2/VI#8	1.01	1.01	0	1.01	1.01	1.01	0	k °C
12	DO1	0	0	0	0	0	0	0	
13	X	8.7907	9.2069	0.4162	s				

Creating Markers

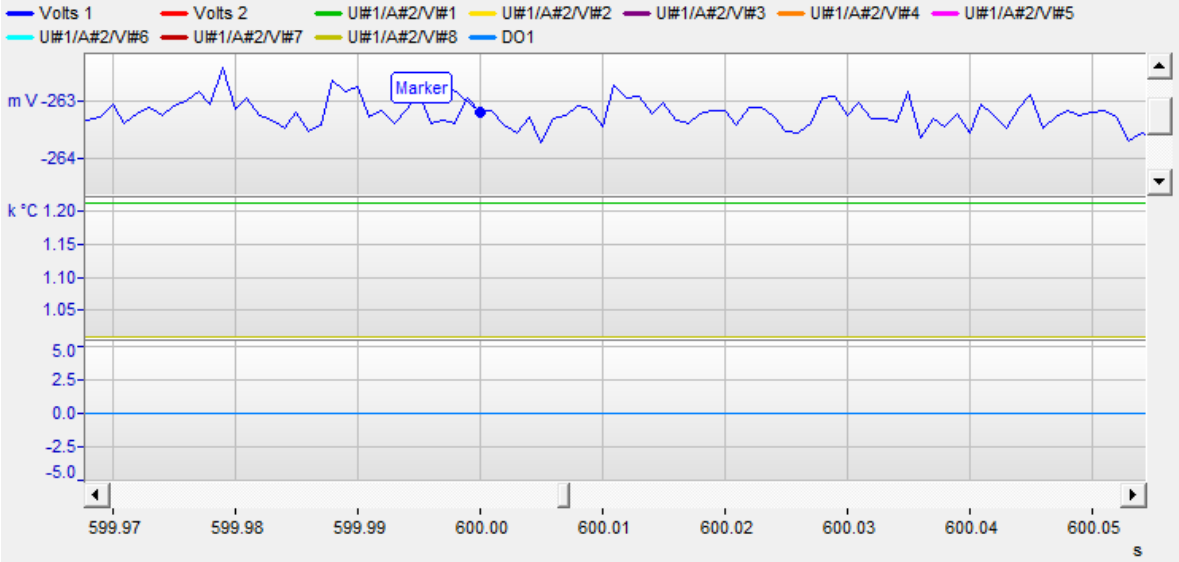
1. Right-click anywhere on the curve window and select Create Marker.



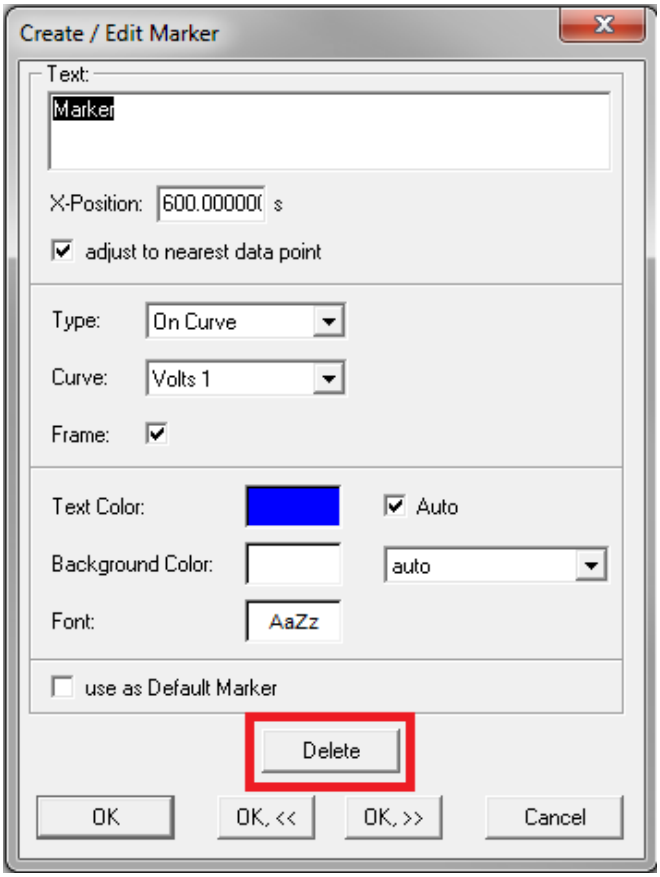
2. The Create/Edit Marker window will appear. Configure the specifications of the marker including name, position on the time axis, variable, and cosmetic options. Click the OK button to apply the marker to the curve.



3. The marker will be added to the curve.

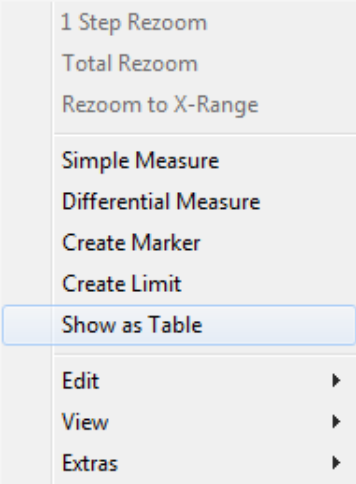


4. Double-click on the marker to edit the properties. The marker can also be deleted in this window by selecting the Delete button.



Value Table

Data that is currently displayed on the curve can be viewed in a table. This feature works best when the curve is not streaming live. Right-click anywhere on the curve and select Show as Table.



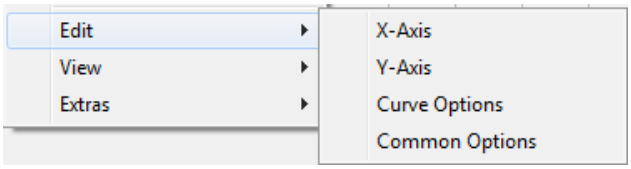
Data Shown in Table:

Value Table

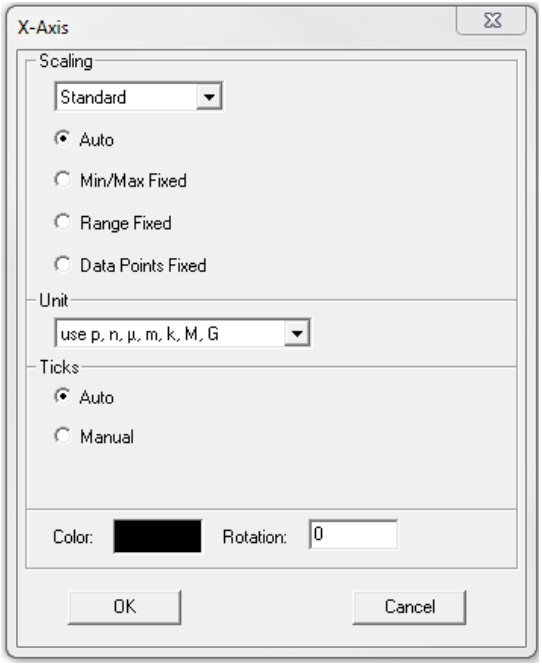
X [s]	Volts 1 [m V]	Volts 2 [m V]	U#1/A#2/V#1 [k °C]	U#1/A#2/V#2 [k °C]	U#1/A#2/V#3 [k °C]
451.012	-263.699025	-265.355349	1.212	1.01	1.01
451.012	-263.699025	-265.355349	1.212	1.01	1.01
451.013	-263.536513	-265.382409	1.212	1.01	1.01
451.013	-263.536513	-265.382409	1.212	1.01	1.01
451.014	-263.003826	-264.956266	1.212	1.01	1.01
451.014	-263.003826	-264.956266	1.212	1.01	1.01
451.015	-263.034523	-265.250593	1.212	1.01	1.01
451.015	-263.034523	-265.250593	1.212	1.01	1.01
451.016	-263.240367	-265.322834	1.212	1.01	1.01
451.016	-263.240367	-265.322834	1.212	1.01	1.01
451.017	-262.841314	-265.389651	1.212	1.01	1.01
451.017	-262.841314	-265.389651	1.212	1.01	1.01
451.018	-263.153702	-265.265048	1.212	1.01	1.01
451.018	-263.153702	-265.265048	1.212	1.01	1.01
451.019	-263.406515	-265.423954	1.212	1.01	1.01
451.019	-263.406515	-265.423954	1.212	1.01	1.01
451.020	-263.731539	-265.525073	1.212	1.01	1.01

Formatting the X & Y Axis

1. Right-click anywhere on the curve window and select Edit > X or Y Axis.

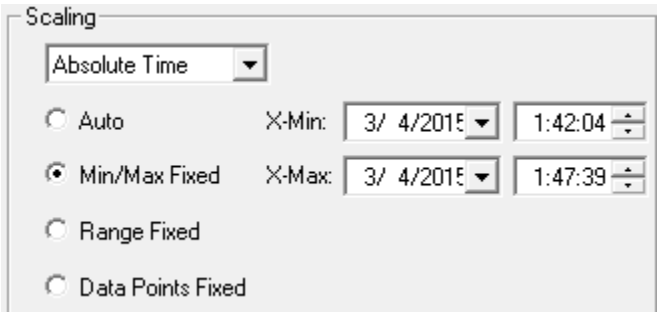


2. The X-Axis properties window modifies the following:

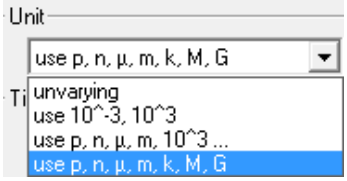


The scaling can be set to standard, absolute time, relative time, XY display, or use a channel as an axis. The scaling type can then be modified further:

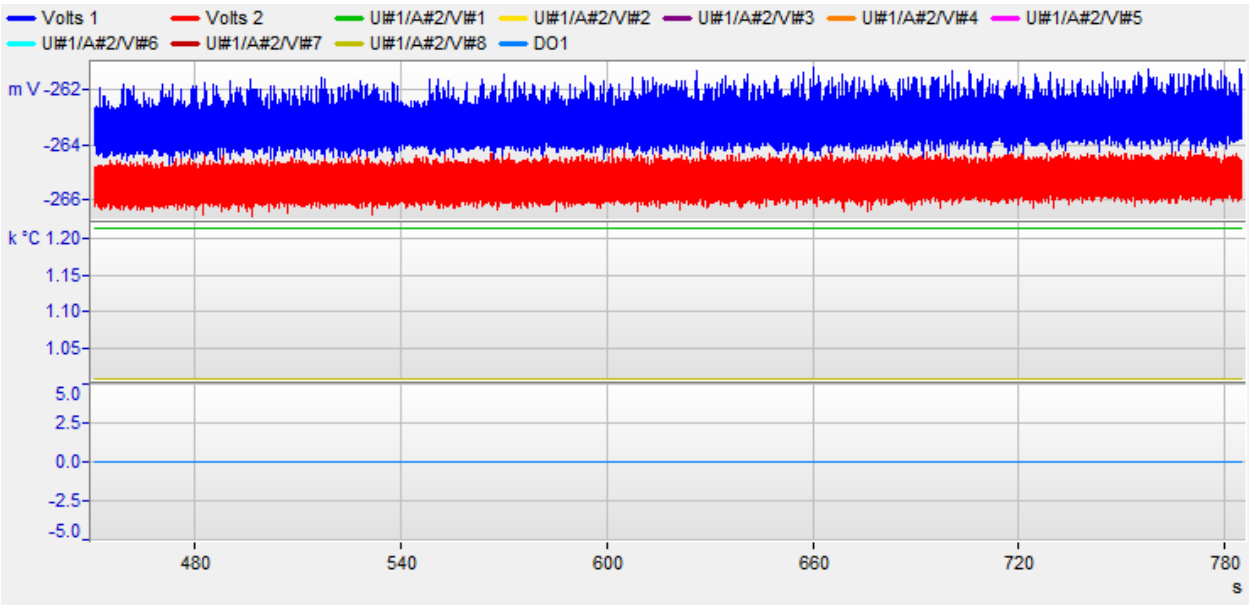
- Auto
- Min/Max Fixed (shown below)
- Range Fixed
- Data Points Fixed



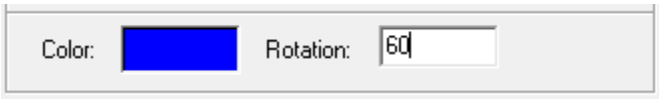
3. When a non-time related axis is used, the format of the units can be modified.

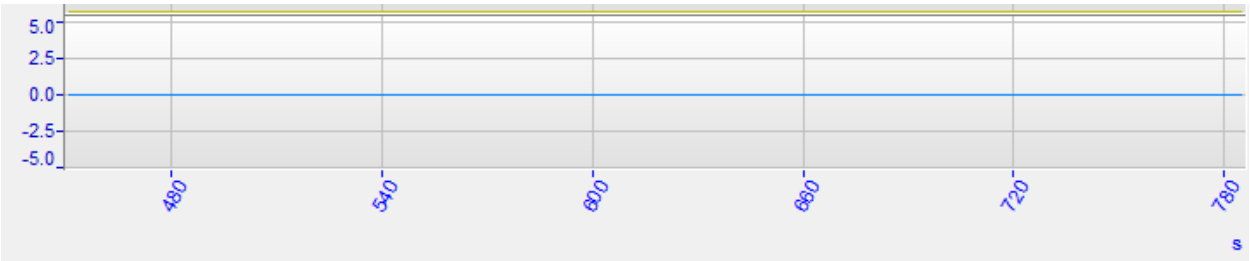


4. The spacing between ticks on the X-Axis can be set automatically or manually using a user specified value.

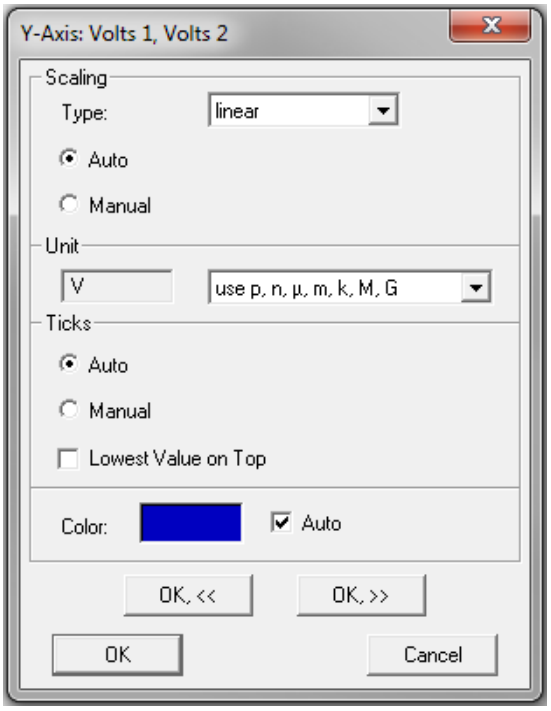


5. The color of the axis label can be modified along with the angle of placement.

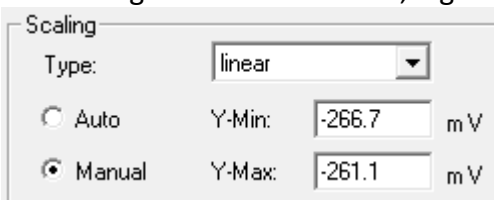




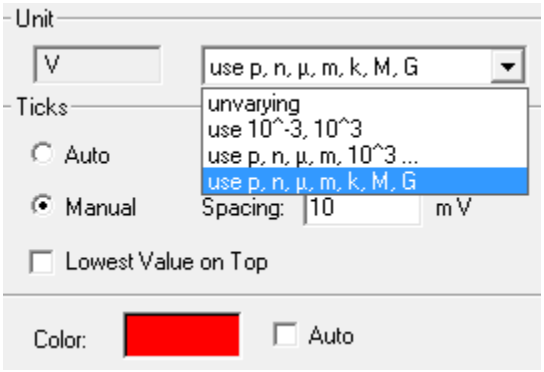
6. The Y-Axis properties window modifies the following. If there is more than one group of curves, Y-axis for each curve is modified independently of one another.



The scaling can be set to linear, logarithmic, or decibel; either Auto or Manual.

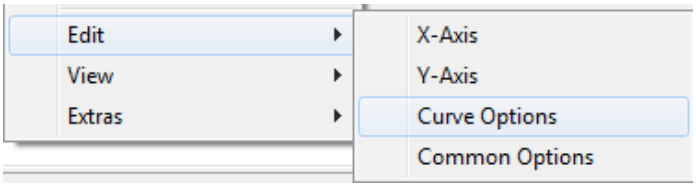


7. The format of the units, ticks (auto or manual), and label of the Y-Axis are all available here.

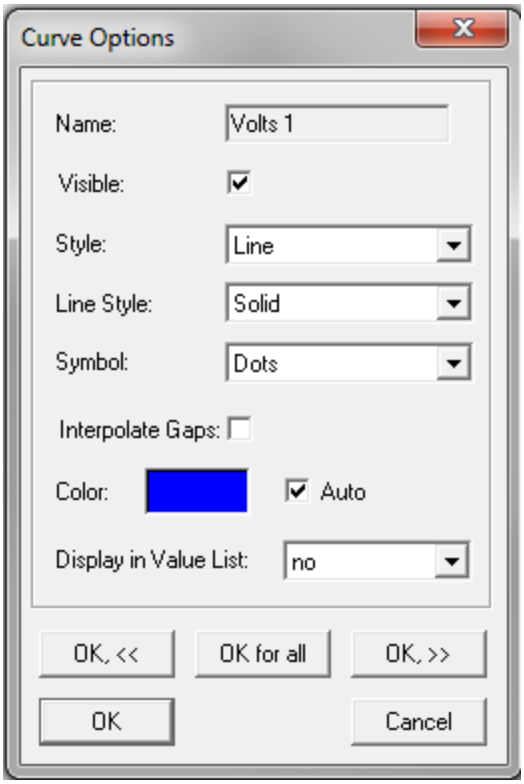


Curve Options

1. Right-click anywhere on the curve window. Select Edit > Curve Options.



2. The properties for each curve can be modified one by one, or the settings can be applied to all curves (OK for all button).

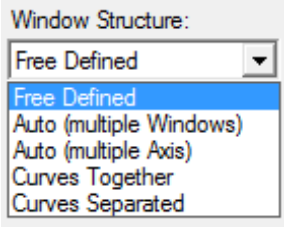


The style of the line and appearance of each data point on the curve can be changed. The color of each curve can be changed also. Note: make sure to unselect the check box next to Auto in order to change the color of the curve.

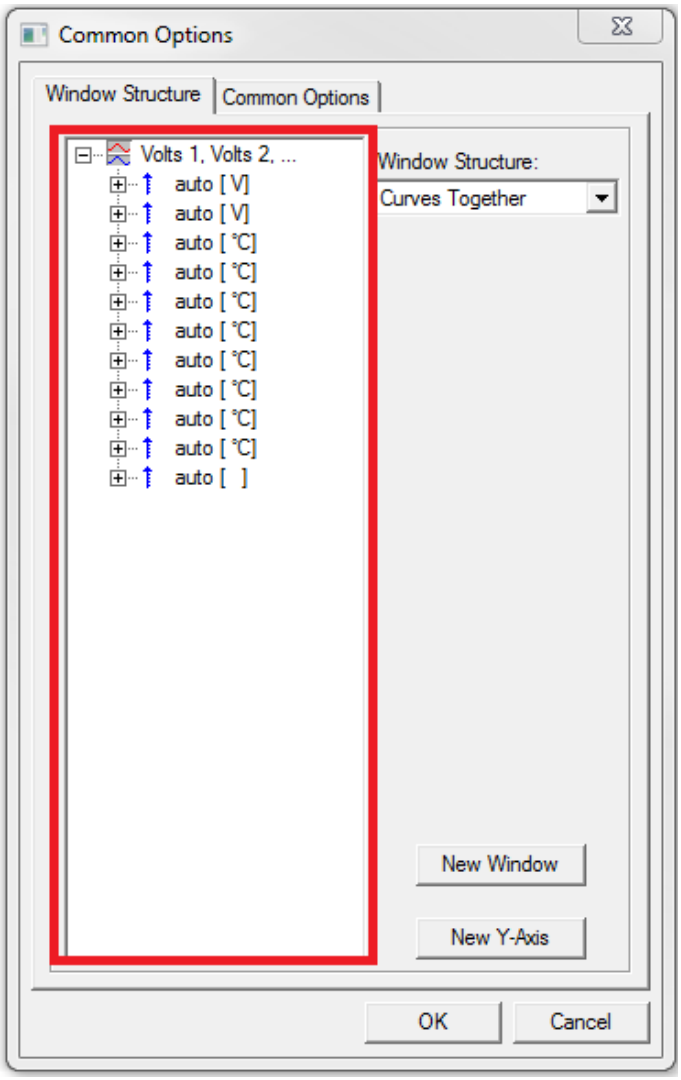
Common Options

1. Right-click anywhere in the curve window and select Edit > Common Options.

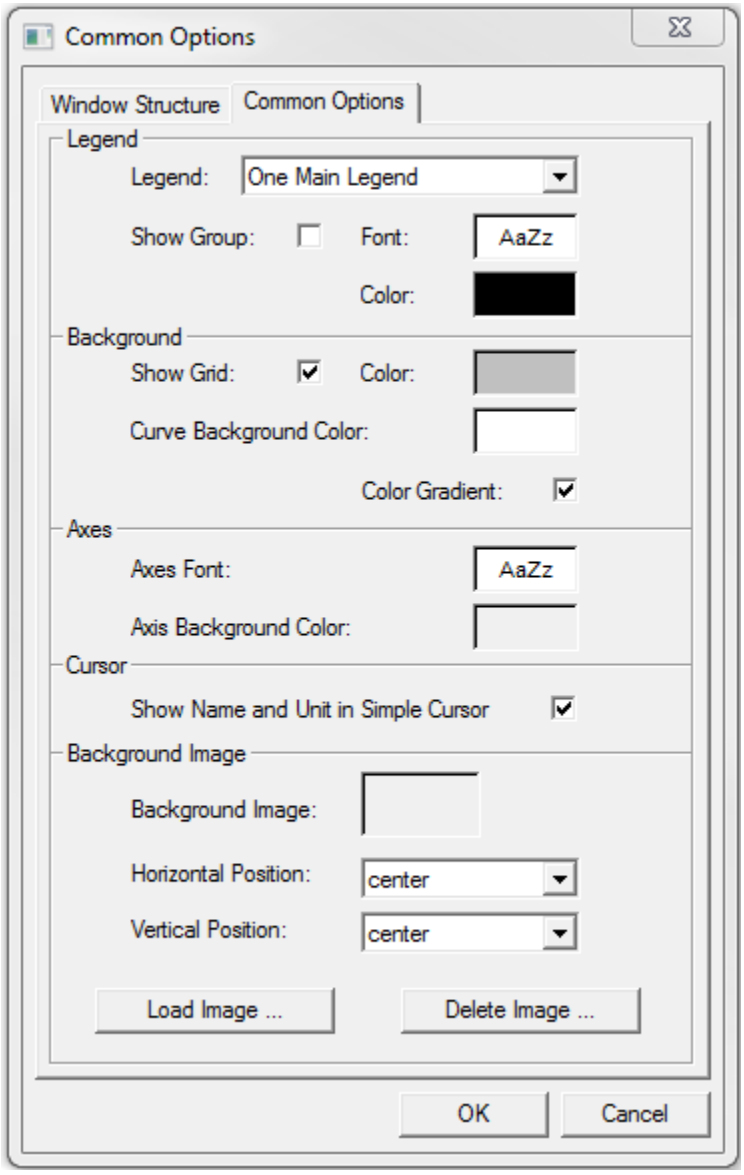
2. On the Window Structure tab the type of window layout for all curves can be selected:



3. Based on the type of structure selected, the layout is displayed on the left side of the page.

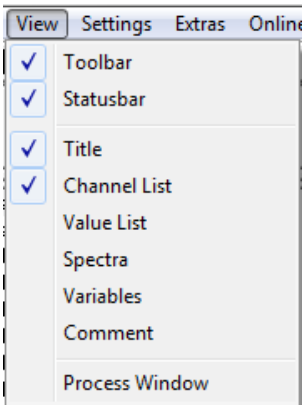


4. The Common Options tab displays various window options including font size, text colors, background colors, etc.



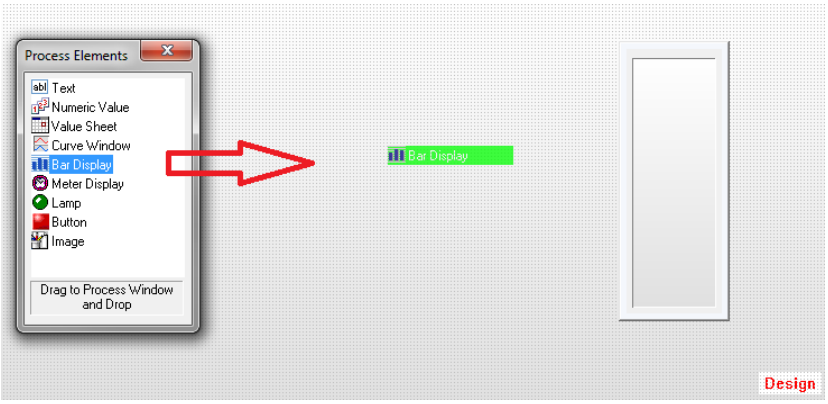
Process Window Configuration

1. Access the Process Window by clicking on View > Process Window.

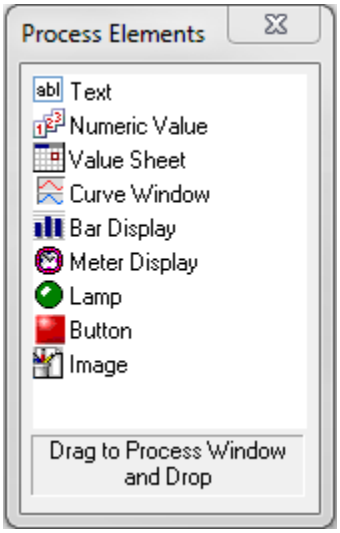


2. The process window will open in design mode. This mode allows the user to add/remove/edit process elements on the process window.

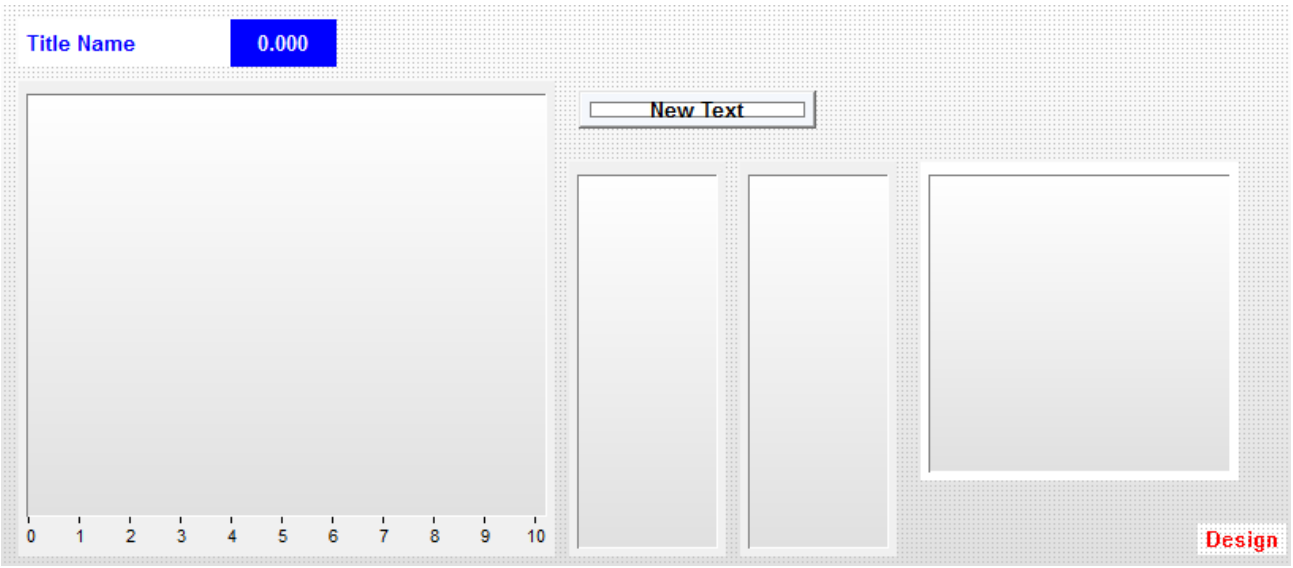
3. To add an element to the window, drag the element from the selection window to the main window. Right-click on the background and select Create > choose Element, accomplishes the same task.



4. The available process elements:



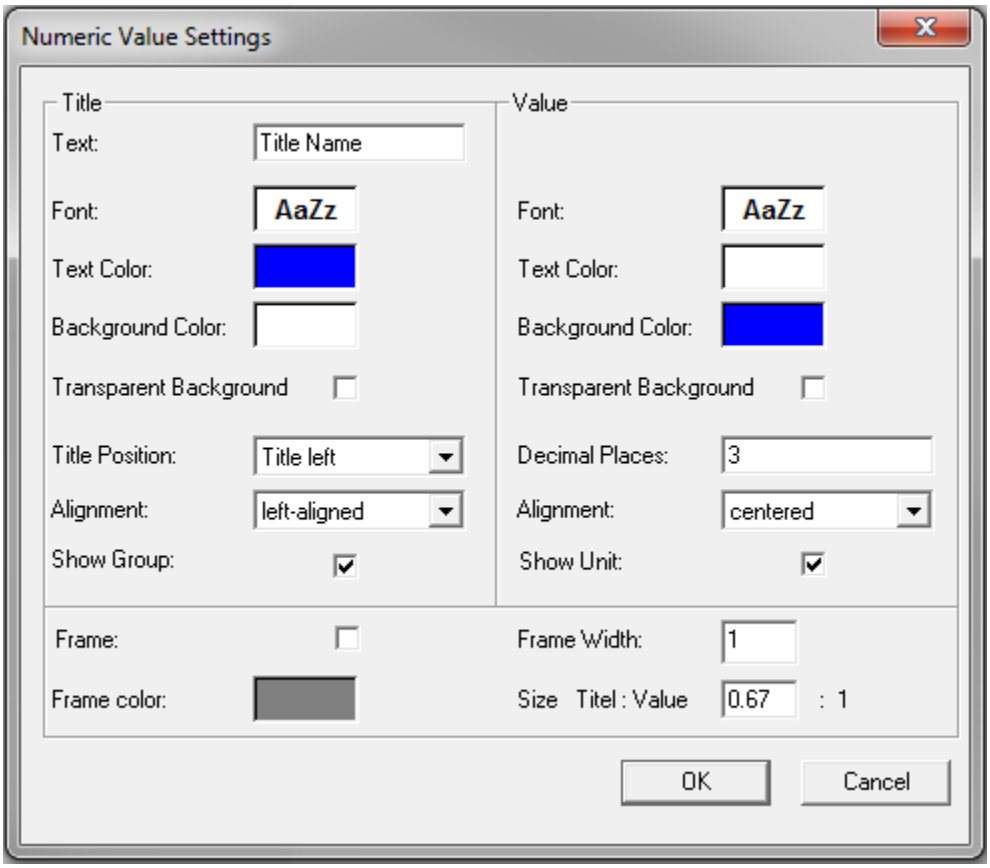
5. Populate the process window with all desired elements.



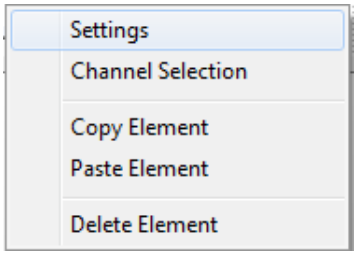
6. Each element can be resized after it has been placed in the process window. Drag the element from the edges to desired size. Left-click and hold on the element to move around the process window.

   Right-click on the process element and select Settings to modify the available options.

7. For example, the settings for a numerical value element provide options for font, colors, and position modifications.

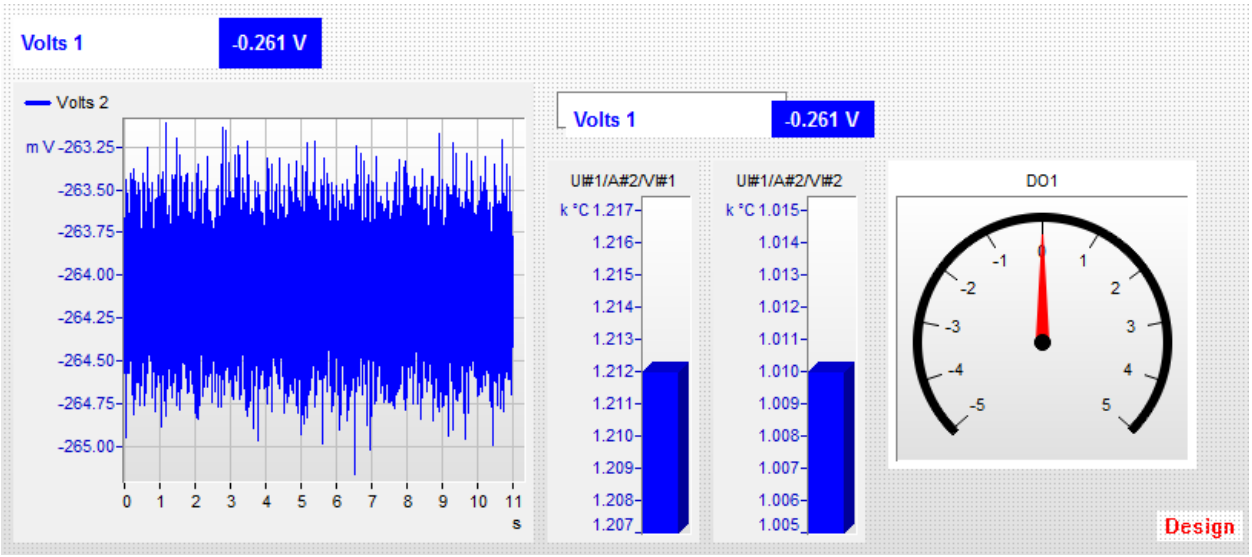


8. Adding a variable/channel to a process element can be done by dragging the variable from the channel list to the process element. This task can also be done by right-clicking on the process element and selecting Channel Selection.

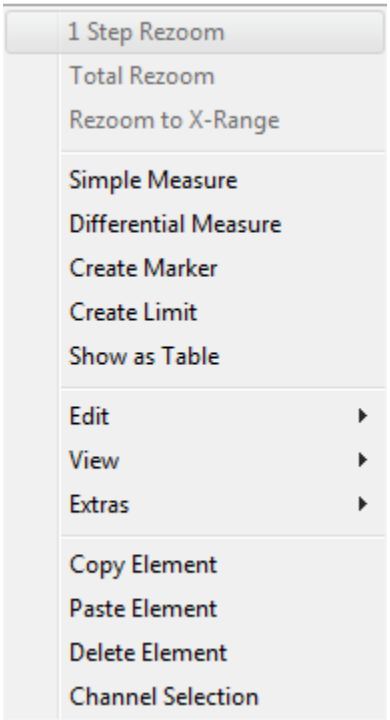


9. Select the channel to add to each element.

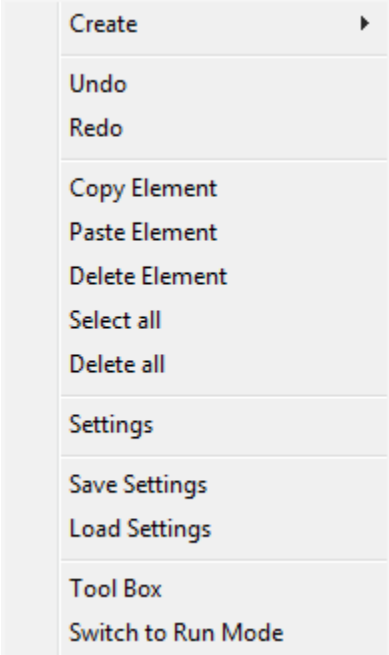
10. The elements in the process window will display their default settings after a variable has been assigned to it.



11. To delete any element, right-click on the element and select Delete Element.

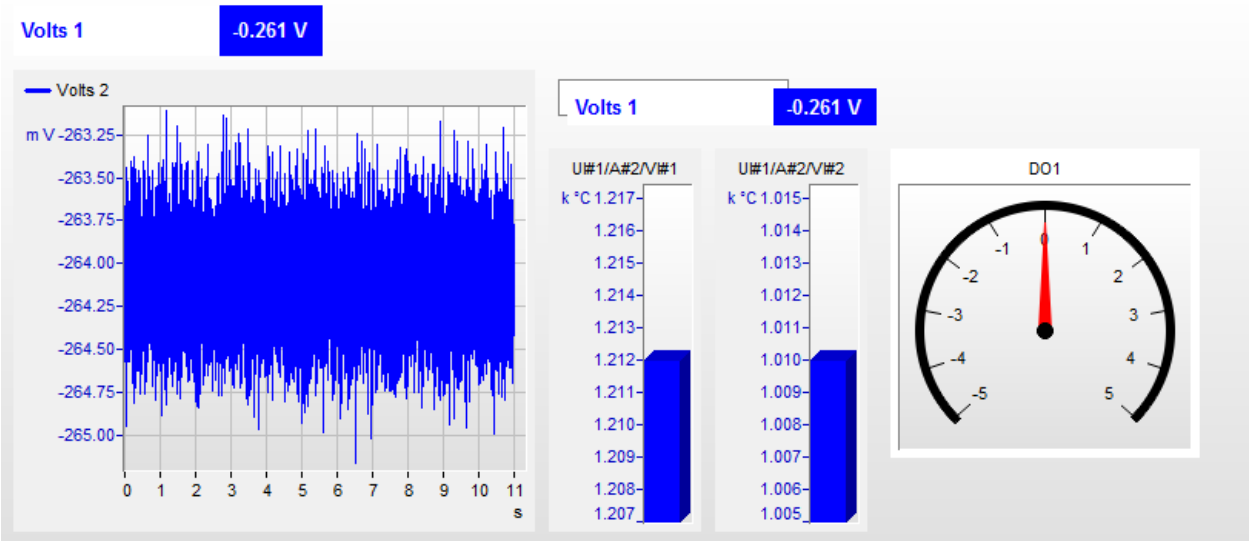


12. After the design has been finished, right-click anywhere in the background portion of the process window and select Save Settings. The settings are saved as a .gep file (Green Eye Process Settings).



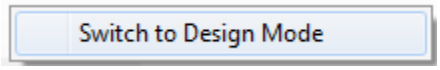
13. Any previously saved settings can also be loaded by selecting Load Settings.

14. After the process window has been customized, channels selected, and settings saved, right-click on the background and select Switch to Run Mode (notice that the Design label in the bottom right corner disappears).



15. Select Online > Start Live-Stream to start the display process.

16. After the process window is in Run Mode and modifications need to be made, right-click on the background and select Switch to Design Mode.

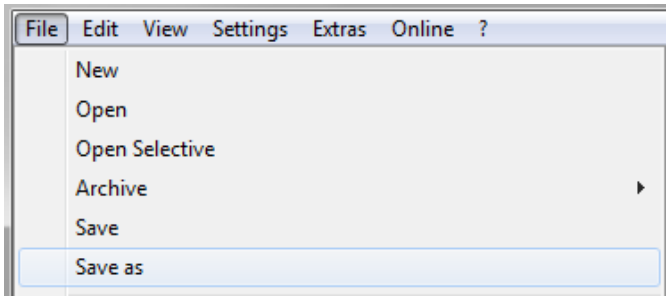


Saving Data

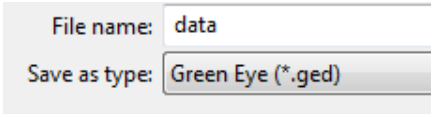
Not only can data be streamed and analyzed in test.viewer, the data can also be saved for future analysis or exported to a CSV file for data management in a spread sheet software such as Excel.

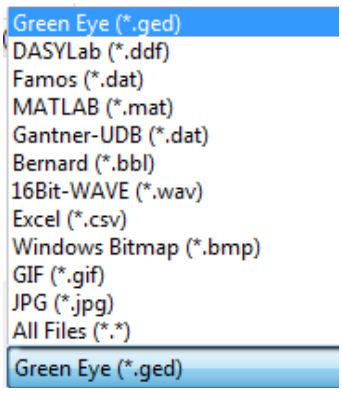
Data can only be saved if the data is not streaming live (Online > Stop Live-Stream).

1. Select File > Save As.



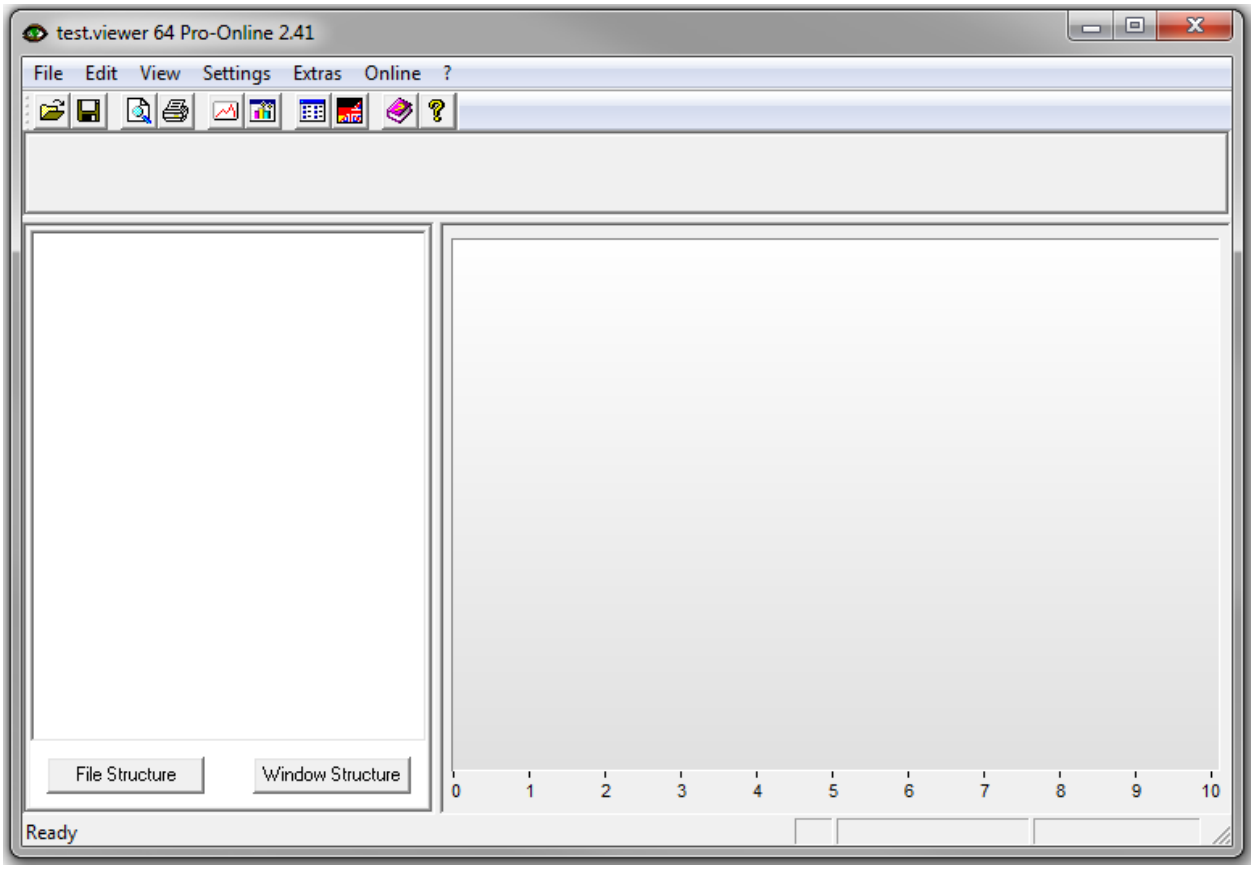
2. Give the file a name and select the type of file to save as.



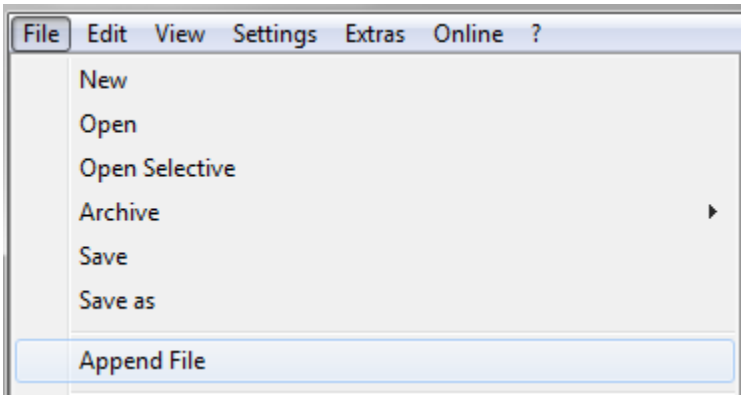


3. Data files saved in Green Eye format (.ged) can be opened using test.viewer. The benefit of saving data as .ged is the ability to append multiple data files together at a later time. These appended files must contain identical channel configuration.

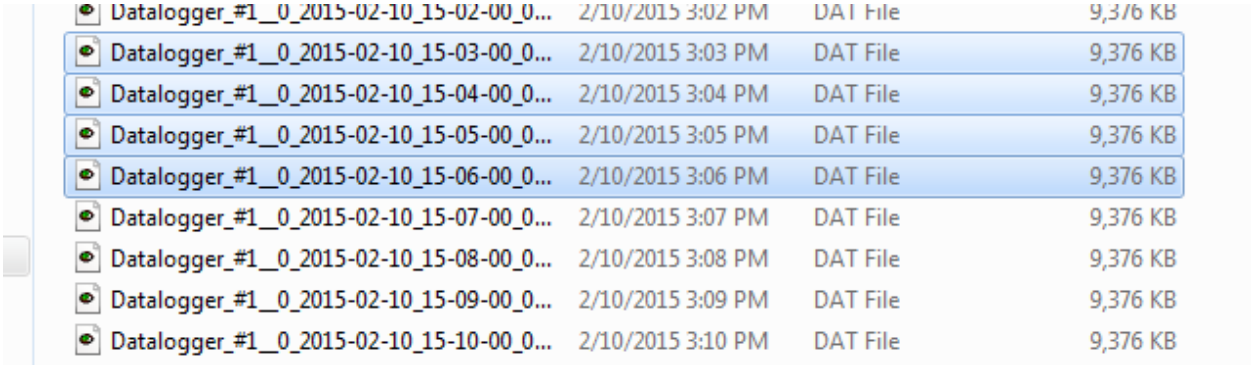
4. Open a fresh and empty test.viewer.



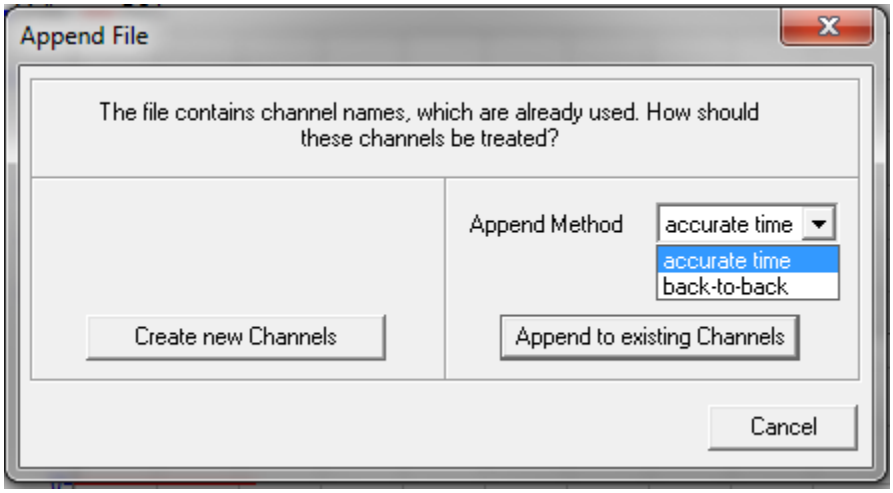
5. Select File > Append File.



6. Select the files to append together.



7. If additional data files need to be included after the main append has already been performed, select File > Append File. The software will present the option to append the new data based on the data's time stamp or immediately after the current data.

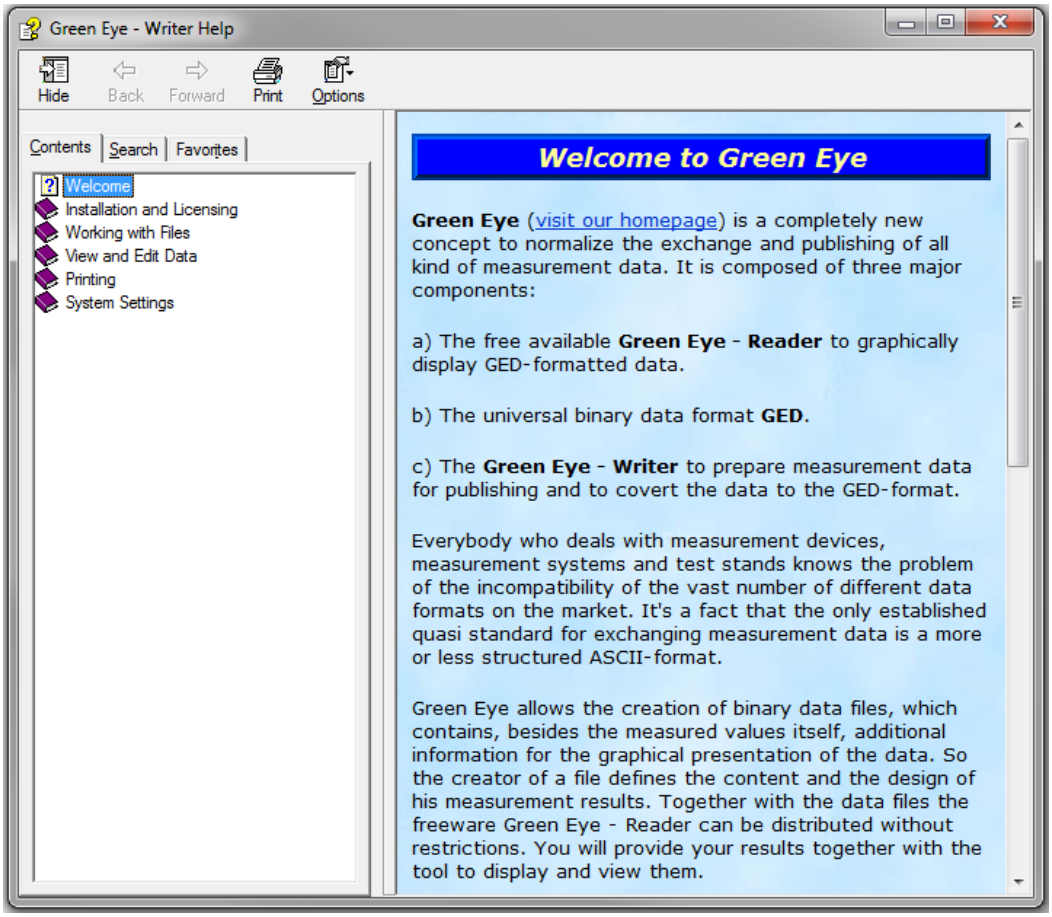


8. Appended data in test.viewer can now be exported/saved as a single data file using File > Save As.

Help Section

1. test.viewer has a built-in help section that can be used a quick reference guide. To access this guide, select ? > Help, located in the top toolbar.

2. The help guide will open.



3. If the guide does not open, your version of Microsoft Windows might need the following tool installed first:

   http://www.microsoft.com/en-us/download/details.aspx?id=91

Index

Q.bloxx Quick Start Guide:
http://www.gantnerinstruments.com/datasheets/manuals/gantner-q.bloxx-quick-start-guide.pdf

Q.station Quick Start Guide:
http://www.gantnerinstruments.com/datasheets/manuals/gantner-q.station-quick-start-guide.pdf

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