(HACH)[®] Application Note 110

Creating and Using TrendWorX Time Plots with Hach's OPC Servers

Introduction

This document describes how to insert a TrendWorX Time Plot into a GraphWorX screen, and connect it to a Hach OPC (OLE for Process Control) Server.

System Requirements

- Pentium 166 mHz or faster processor with CD ROM Drive
- Windows[®] 95, 98, NT 4.0 or higher (NT recommended)
- At least one Hach OPC Server (such as MOD I/O Explorer)
- Iconics Genesis32 Enterprise Edition (Both GraphWorX32 and TrendWorX32 required)

Starting GraphWorX

1. Start GraphWorX by clicking Start, Programs, Iconics Genesis32, GraphWorX32, GraphWorX32. A blank design screen appears:



Inserting a TrendWorX Real Time Display



2. Click the TWXView32 ActiveX control button. A time plot is placed on the GraphWorX screen.



3. Double click the Time Plot. The TWXView32 ActiveX Properties dialog box appears:

TWXView32 Ac	tiveX Prope:	rties		×
Details General	Time Fonts	Rates Workspace	Pens Grids	Settings Ranges
Viewer Title:	Trend Viewer			<u>A</u> bout
Plot Type:	Time Plot		•	
Configuratio	on File			
Filename:	ned.			<u>L</u> oad
				Save As
Not Assign	atn: ned			
	ОК	Cancel	Apply	Help

4. Click on the Pens tab.

TWXView32 Ad	ctiveX Prope	rties		×
General Details	Fonts Time	Workspace Rates	Grids Pens	Ranges Settings
Pen Descrip	tion		Pen 🗖	History Only
				PC <u>T</u> ags ags M <u>e</u> nu Edjt
				Delete
•				Replace
	OK	Cancel	Apply	Help

- 5. Click on the OPC Tags button.
- 6. Double click My Computer.

👷 OPC Universal Tag Browser		×
Item Id: Hach.PCX.1\2200 PCX 4-0	01. Total Normalized Counts 📃 💌	ОК
Filter:		Cancel
	TagName	<u>R</u> efresh
E En Network Neighborhood		<u>D</u> etails
		Add <u>B</u> ranch
		Add <u>I</u> tem
		R <u>e</u> move
		Re <u>m</u> ove All
		<u>A</u> bout
Item ID Name	Tag Name	<u>H</u> elp
		🗖 Deb <u>ug</u>
J		

OPC Tags...

7. Double click Data Access then continue double clicking items until the desired OPC Tag is found (Turbidity in this example). Click OK.

R OPC Universal Tag Browser		×
Item Id: Hach.ModIO.1\ModIO 3-01.Sen:	sor3-1720DL. Turbidity 🗾	OK
Filter:		Cancel
E My Computer	Tag Name	<u>R</u> efresh
Data Access	XVAlarm1 XVAlarm2	<u>D</u> etails
⊡ <mark>10</mark> ModIO 3-01 ⊕ <mark>10</mark> Sensor2-1720D	August Status	Add <u>B</u> ranch
Sensor3-1720D 🛅 Sensor4-1720D		Add <u>I</u> tem
E Sensor5-1720D		R <u>e</u> move
		Re <u>m</u> ove All
	۲	About
Item ID Name	Tag Name	<u>H</u> elp
		🗖 Deb <u>ug</u>
ļ		

8. The properties dialog now shows the first pen description.

TWXView32 A	ctiveX Prope	rties		×
General Details	Fonts Time	Workspace Rates	Grids Pens	Ranges Settings
Pen Descrip ModIO 3-	tion 01.Sensor3-17	20DL. Turbidity	Pen Rea	History Only IPC <u>I</u> ags ags M <u>e</u> nu Edit <u>D</u> elete <u>R</u> eplace
	ОК	Cancel	<u>A</u> pply	Help

9. Double click the red box next to the pen name to edit that pen's properties. The Edit Trend Pen dialog box appears:

Edit Trend Pen	×
General Alarms Ranges	
Tag: 10.1\Mod10.3-01.Sensor3-1720DL.Turbidity	_ <u>S</u> tyle Line: Solid ▼
Desc: ModIO 3-01.Sensor3-1720DL.Turbidity	Width: 1 🕂
Units: Not Assigned	Plotter: Big
Type: Real Time Persistent Group: Not Assigned	Color:
Options ✓ Visible ☐ Stair Plot	Details xxxx.xx 💌
🔲 Show Samples 🗖 Pen Marker 🔲 X-Axis	Filter: Raw Data 💌
	OK Cancel

10. Click on the Ranges Tab. Change the Low Range to 0, and the High Range to 1.

Edit Trend Pen			×
General Alarms Ranges			
Low: 0	Tags	=	
High: 1	Tags	=	
Color Format: Text Color: Xxxx.xx Fill Color: Autoscale Update From Server On Animate			
	OK		Cancel

11. Continue adding pens as necessary by clicking the OPC Tags button. Two pens are shown in the example below.

TWXView32 A	ctiveX Prope	rties		×
General Details	Fonts Time	Workspace Rates	Grids Pens	Ranges Settings
Pen Descrip ModIO 3- 2200 PC	ition 01.Sensor3-17: { 4-01.Total No	20DL.Turbidity) rmalized Counts	Pen Rea Rea	History Only OPC <u>I</u> ags Tags M <u>e</u> nu Edjt <u>D</u> elete <u>R</u> eplace
	ОК	Cancel	Apply	Help

12. Click the Rates Tab and set the desired trend period in Hours, Minutes and Seconds (15 minutes in this example).

TWXView32 A	ctiveX Prope	erties		×
General	Fonts	Workspace	Grids	Ranges
Details	Time	Rates	Pens	Settings
Data Collectio	n <u>R</u> ate		🗖 Display Ref	resh Rate 👘
Hours: Mi	n: Secs	: Msec:	1 📑	× Collection Rate
Trend Period Years: M	fonths: Day	/S: •	History Refr	resh Rate — Sec.
Hours: N	fin: Sec E <u>→</u> 0	-	Samples: 777 -	
	ОК	Cancel	Apply	Help

13.	Click the Ranges Tab, and set the Visible Ranges to 2. This will display a separate
	scale for each pen on the Time Plot.

TWXView32 Ac	tiveX Prope	rties		×
Details General	Time Fonts	Rates Workspace	Pens Grids	Settings Ranges
Border: Su	nken 💌	Low: 0.00	Ranges:	Tags =
Options: Re	ctangle 💌	High: 1000	00	Tags =
Position: Le	ít 💌	XY Plot X-A	xis Range:	Set X- <u>R</u> ange
Format: xxx	X.XX 💌	Fill:	Restore To	Original
Size: No	rmal 💌	Text:	Visible Ranges	. 🗵
	OK	Cancel	Apply	Help

14. Click OK. The Time Plot is shown on the screen.

1.00 10000	Time Plot							
0.83 8333 -								
0.67 6667 -								
0.50 5000 -								
0.33 3333 -								
0.17 1667								
Γ	3:10:4	IS PM	3:13:	43 PM	3:16:43	PM 3:1	19:42 PM	
	7/19	1/00	7/1	9/00	7/19/0	7 G	7/19/00	
Description				Value	Time		Date	Т
ModIO 3-01.Se	nsor3-1720DL.Tu .Total Normalized	urbidity I Counts		????.?? ????.??	##:##:# ##:##:#	#	##:##:## ##:##:##	
J								

- 8333 6667 5000 3333 1667 1:38:37 PM 1:41:37 PM 1:44:37 PM 1:47:37 PM 1:50:36 PM 7/19/00 7/19/00 7/19/00 7/19/00 7/19/00 Description Value Time Date ModIO 3-01.Sensor3-1720DL.Turbidity 1:52:08.634 PM 7/19/00 0.52 2200 PCX 4-01 Total Normalized Counts 568.90 1:51:55.135 PM 7/19/00
- **15.** Click on the Runtime menu item (in the menu bar) to start the real time display. A screen is shown below.

Changing the Chart Type

Additional chart types such as Circular, Logarithmic, X-Y, and Bar Charts are available.

1. To switch to a Circular Chart (for example), click the Configure menu item (in the menu bar) to return to design mode.

1.00 10000	Time Plot				
0.83 8333					
0.67 6667					
0.50 5000					
0.33 3333					
0.17 1667					
0.00 0					
	3:10:43	M 3:13:43 PM	3:16:43 PM	3:19:42 PM	
	7/19/0	7/19/00	7/19/00	7/19/00	
Description		Value	Time	Date	
ModIO 3-01.Sensor3-1720DL.Turbidity			? ##:##:##	##:##:##	
2200 PCX 4.F	7. Total Normalized C	unts ?????.?	? ##:##:##	##:##:##	

WXView32 A	ctiveX Prope	rties		
Details	Time	Rates	Pens	Settings
General	Fonts	Workspace	Grids	Ranges
Viewer Title:	Trend Viewer			<u>A</u> bout
Plot Type:	Circular Chart		-	
– Configuratio	on File			
Filename:				Load
Not Assig	ned			
URL P	ath:			Save As
Not Assig	ned			
1				
	OK	Cancel	Apply	Help

3. Click OK. The Time Plot changes to a Circular Chart. Note that only a single range can be displayed on the scale with a circular chart (0-1000 in this example).



2. Double click the appropriate Time Plot and select Circular Chart for Plot Type.

Click the Runtime menu item (in the menu bar) to start the real time display.



Adding Additional Time Plots



Add additional Time Plots by clicking the TWXView32 ActiveX control button then repeating this procedure from Step 3 on page 2. The image below shows that any combination of Time Plots, Circular Charts, Bar Charts, etc., can be added to a single GraphWorX screen.



For more information, visit our AquaTrend® Technical Information site at:

http://www.aquatrend.com

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