



Kepware Technologies

Client Connectivity Guide for OSI PI

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1. Overview

This document intends to discuss how to create an OPC connection to the server using OSI PI (which handles connectivity through several programs that run in the background). The instructions below use Kepware's "simdemo.opf" project, which is provided with each software installation.

2. Using OSI PI as an OPC Client

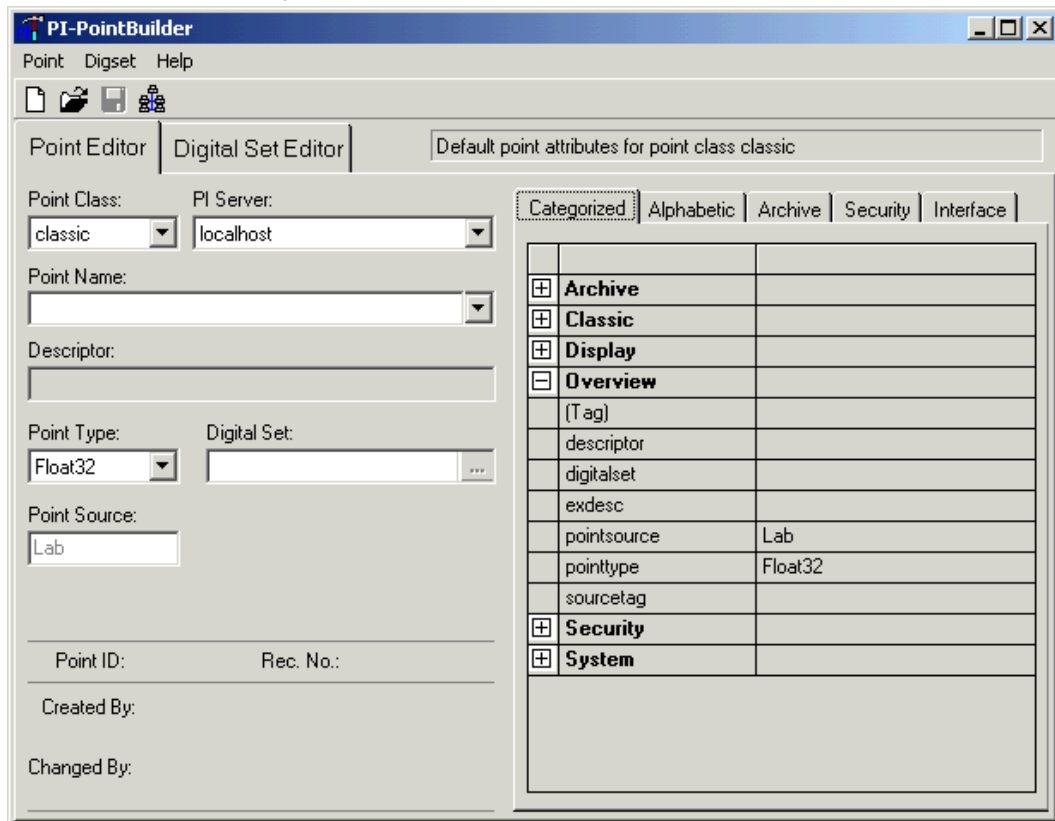
2.1 Connecting to the Server from OSI PI

The following instructions connect to the server using OSI PI3. For information on connecting with OSI PI2, refer to OSI PI documentation.

1. To begin, start the **PI Process Services**.

Note: Users should create a shortcut in the Startup folder that points to the "PISRVSTART.BAT" file located in "C:\PI\ADM". This file must run from the **ADM** folder.

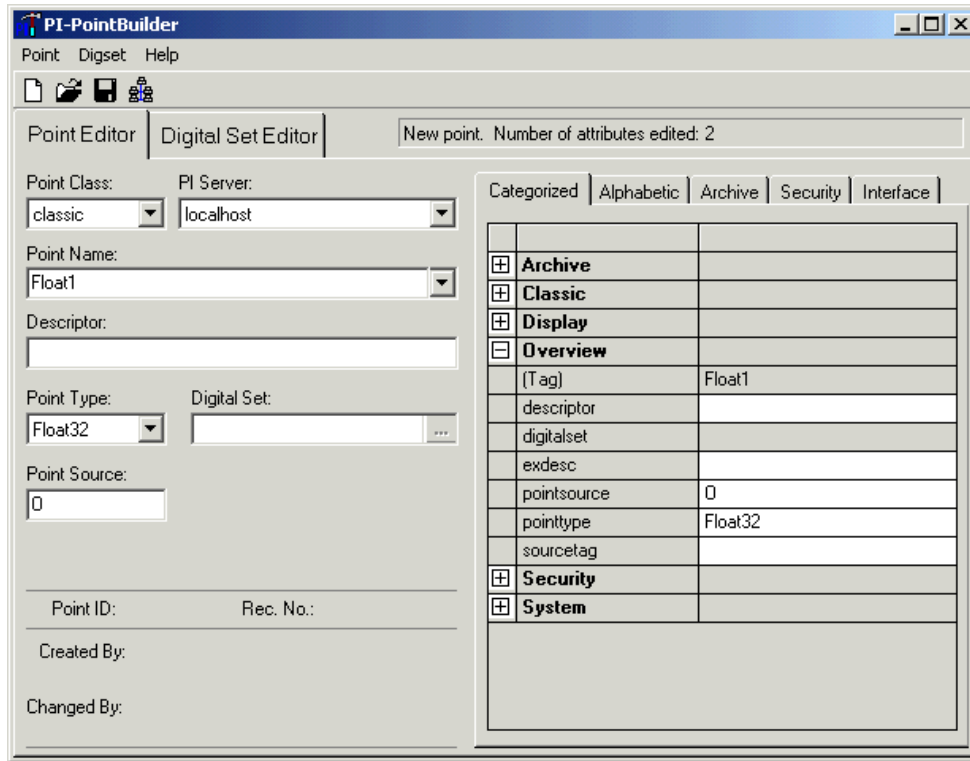
2. Next, open the **PI System Start** folder. Then, open **PI-Pointbuilder**.



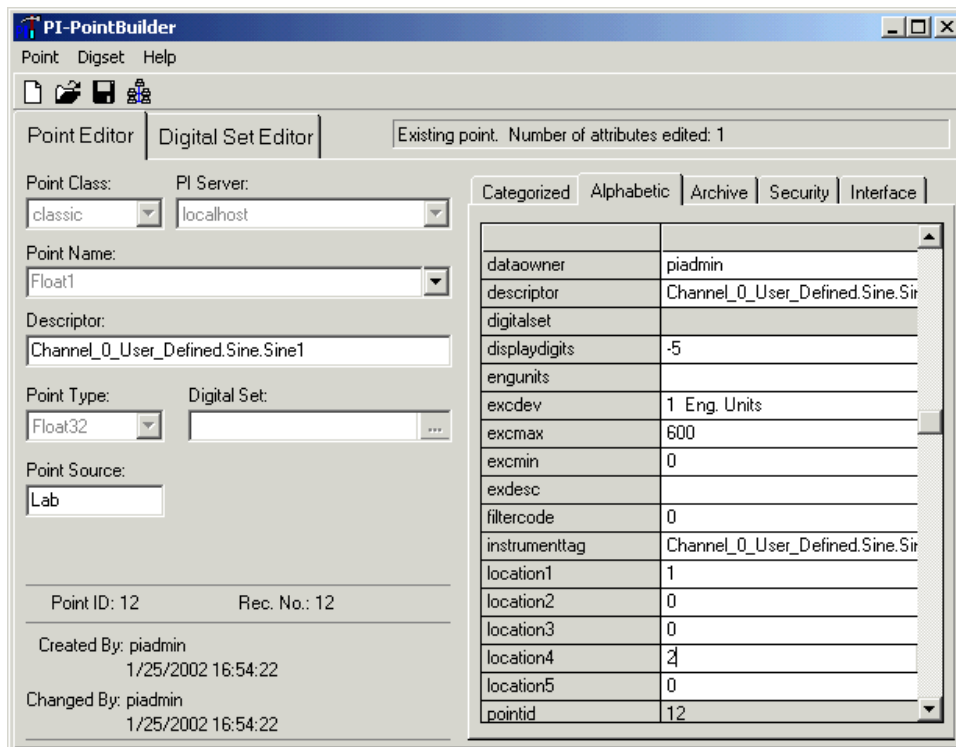
Note: PointBuilder will open to a new tag by default.

3. In **Point Name**, enter a name for the new point. In this example, "Float1" is used.

- In **Point Source**, enter a capital "O" for OPC. All tags defined in the PI database that will be used by the OPC interface must share a common point source.



- Leave the **Point Type** at the default setting **Float32**. Then, open the **Alphabetic** tab.
- Locate **instrumenttag**, and then enter the full Item ID of the server item that will be used in PI. In this example, "Channel_0_User_Defined.Sine.Sine1" is used.

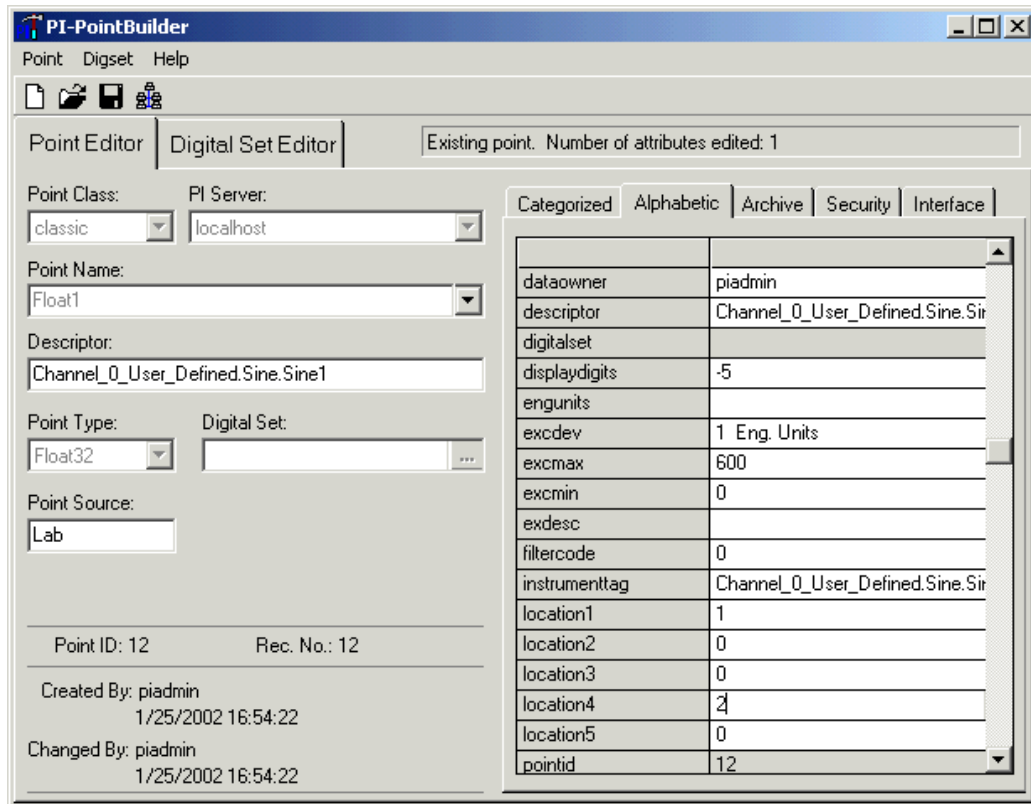


7. Next, copy the **instrumenttag** data and add it to **Descriptor**. This provides a description of the tag.
8. In **location1**, enter "1" for the interface instance number.

Note: The "OPCint.bat" file contains a parameter for the Interface ID called **/ID=#** (where # is any number). The value specified in location1 must match this number; otherwise, the tag will be ignored.

9. In **location4**, enter "2" for the scan class number.

Note: Scan classes are defined in the interface startup file. Each scan class defines an update period: the location4 value defines which scan class period will be used to update the PI point. In this example, the point is assigned to the second scan class period.



10. Once finished, save the PI point to the database.

2.2 Locating the "OPCint.bat" File

A generic "OPCint.bat" file is located in *C:\Program Files\PIPC\Interfaces\OPCint*, and must be modified for server connection. The generic file may appear as shown in the image below.

```
rem
rem Startup file for the OPC interface to PI
rem The ^ marks are continuation characters, they allow
rem you to have a command be split between multiple lines.
rem There must not be ANYTHING after the ^ on each line.
rem This is only a sample of the options available, the user
rem manual has the list and descriptions for them all.
rem
rem /ps=O          The pointsource -- this should match the pointsource for
your tags
rem /ec=10        The event counter number for IORATES
rem /er=00:00:03 The requested update rate for event triggered tags
rem /id=1         The identifier string used in the pipc.log file for messages
rem              from this interface. It must match Location1 on the tags.
rem /SERVER=OPC.OSI.1 The OPC server name; format hostname::servername or
rem just servename if it is local
rem /host=mabel:5450 The PI server name and port
rem /MA=Y         Should we try to add tags in large batches rather than
rem              singly?
rem /ts=a         Where do we get timestamps? (Y/N/A/U)
rem /stopstat     Write a status to PI tags when the OPC server goes away?
rem /f=00:00:01  Scan classes. The first one is for Read On Change tags...

opcint^
/ps=O ^
/ec=10 ^
/er=00:00:03 ^
/id=1 ^
/SERVER=OPC.OSI.1 ^
/host=localhost:5450 ^
/MA=Y ^
/ts=Y ^
/OPCstopstat^
/f=00:00:01 ^
/f=00:00:01 ^
/f=00:00:01 ^
/f=00:00:02
```

2.2.1 Modifying the "OPCint.bat" File

1. In **/SERVER**, change the parameter to "KEPware.KEPServerEX.V4". This is KEPServerEX's Program ID.
2. In **/f**, change the parameter to "00:00:00.1". This is the scan class, which instructs the OPC Interface to request data from the server every 100 milliseconds.
3. In **/host**, the parameter depends on the PC on which the server is running. If running the server on the local PC, leave the parameter at the default setting **localhost**. If running the server on another PC, change the parameter to the name of the PC that will be running the server.

Note: DCOM must be configured properly. For more information, refer to the DCOM documents located at www.kepware.com.

- Once finished, save the edited batch file.

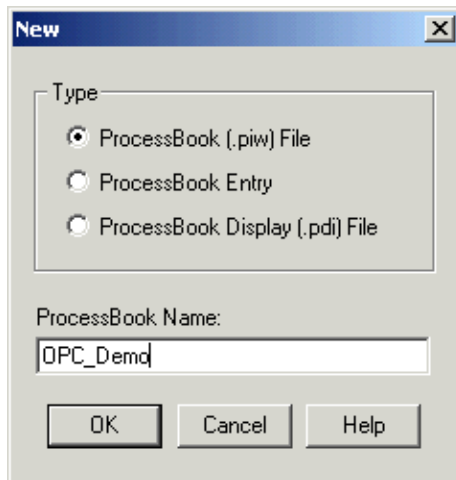
```
opcint^  
/ps=0^  
/ec=10^  
/er=00:00:03^  
/id=1^  
/SERVER=KEPware.KEPServerEX.V4 ^  
/host=localhost:5450 ^  
/MA=Y^  
/ts=Y^  
/OPCstopstat^  
/f=00:00:01^  
/f=00:00:00.1 ^  
/f=00:00:01^  
/f=00:00:02
```

- Next, run the batch file to start the OPC interface.

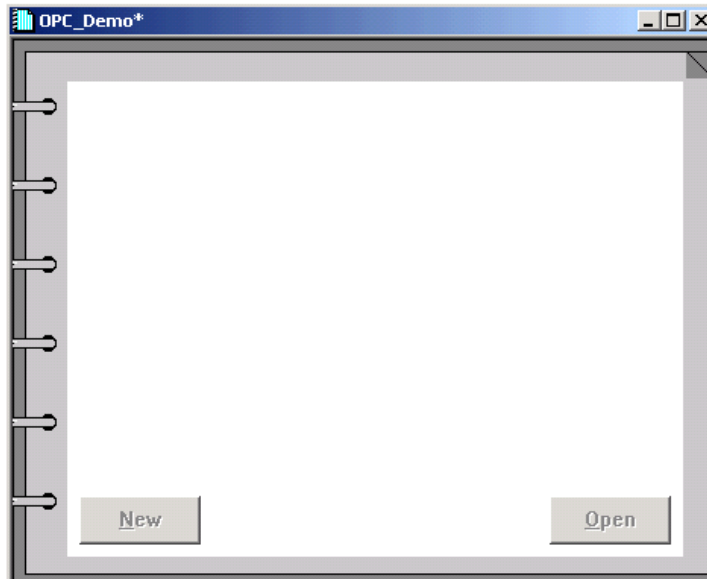
Important: For more information, refer to the "OPCinc.doc" document provided by OSI PI.

2.3 Creating a Display

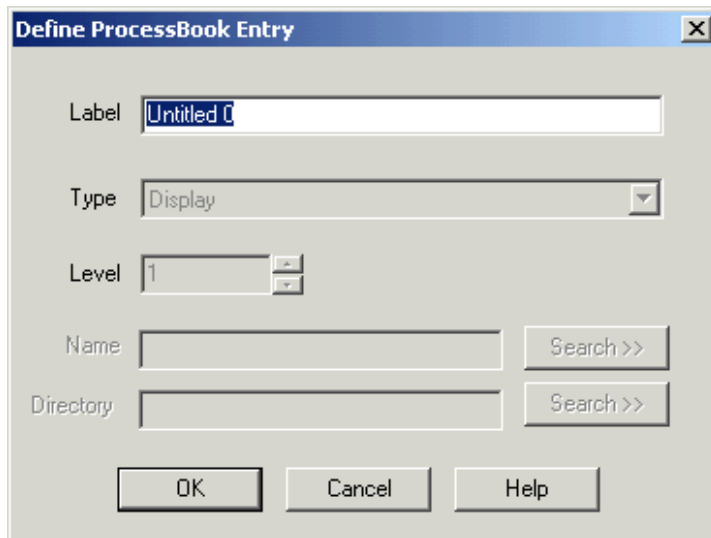
- In the **PI Systems** start folder, double-click on **PI ProcessBook**. Then, close the default demo ProcessBook file, and click **File | New**.
- In **Type**, select **ProcessBook (.piw) File**. Then, specify a name and click **OK**. In this example, "OPC_Demo" is used.




- In the new ProcessBook, click **Insert | Display**. The new display should appear as shown below.

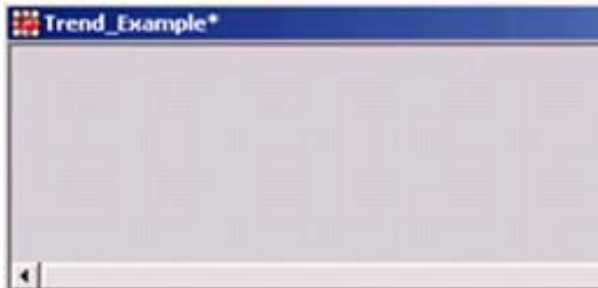


4. In **Define ProcessBook Entry**, enter a name for the display. In this example, "Trend_Example" is used. Once finished, click **OK**.



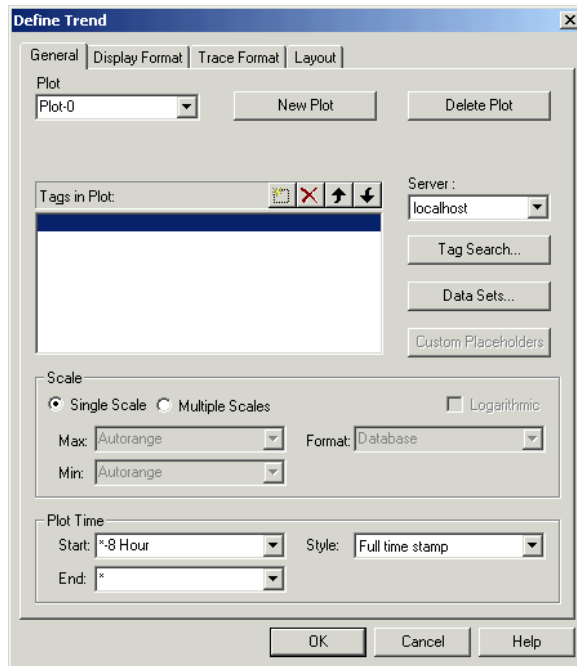
2.4 Creating a Trend Object

1. In the new display, click the **Trend** icon . Then, use the mouse to draw a rectangle in the display that is the size desired for the trend.

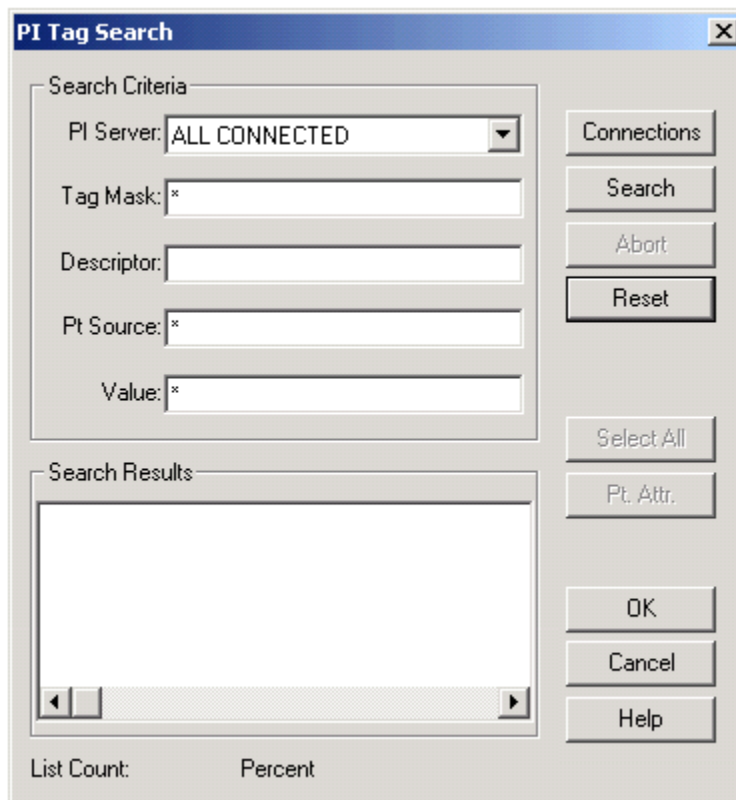


Note: Once the mouse button is released, the **Define Trend** will open automatically.

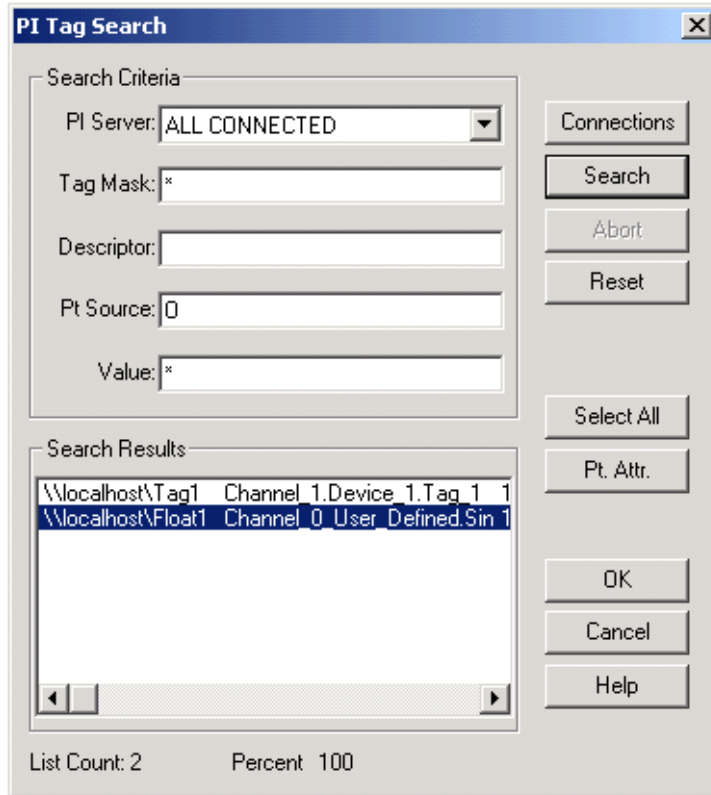
- Next, click **Tag Search** to locate the tags that will be displayed in the trend.



- In **PI Tag Search**, click **Search**. All tags that have been created in the PI Point database should be visible. Enter a "0" in the **Pt Source** field, and then click **Search**.

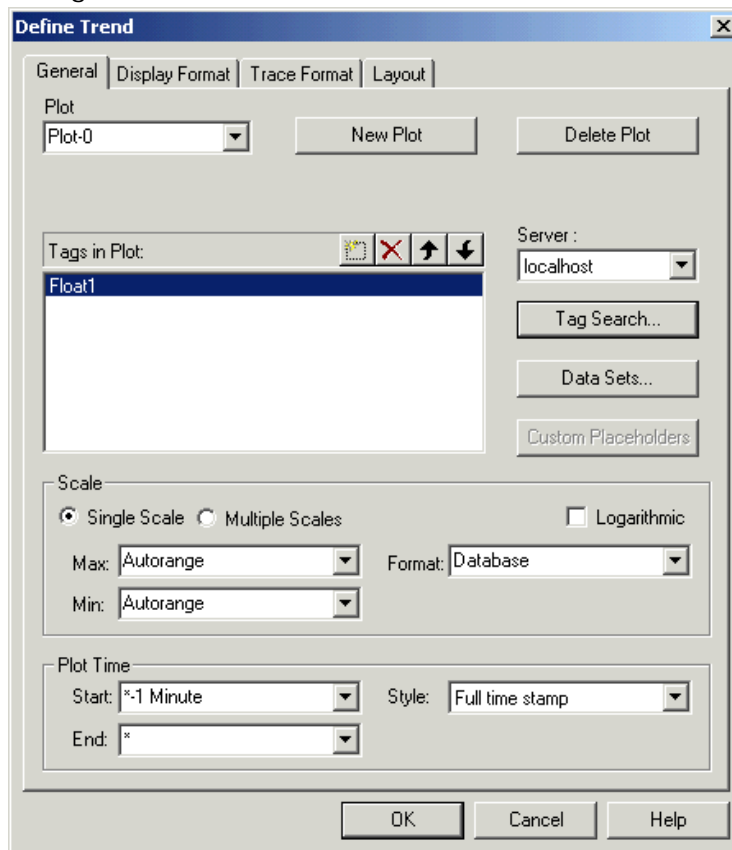


4. Locate and select "Float_1". Then, click **OK** to add it to the Trend properties.



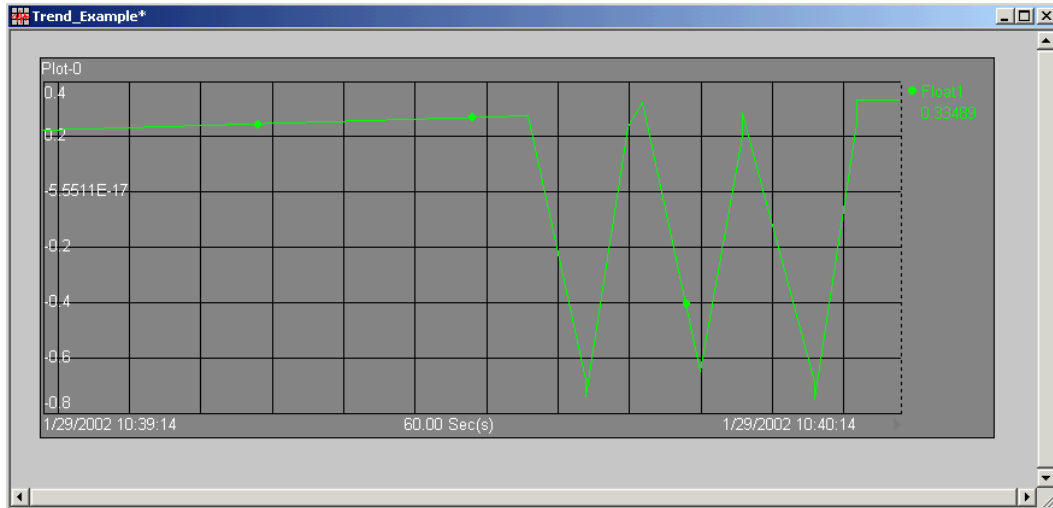
Note: In **Define Trend**, the **Tags in Plot** field should now display the tag name.

5. Next, change the tag's default display width. In **Plot Time**, beneath **Start**, change the value to ***-1Minute**. Then, click **OK**.



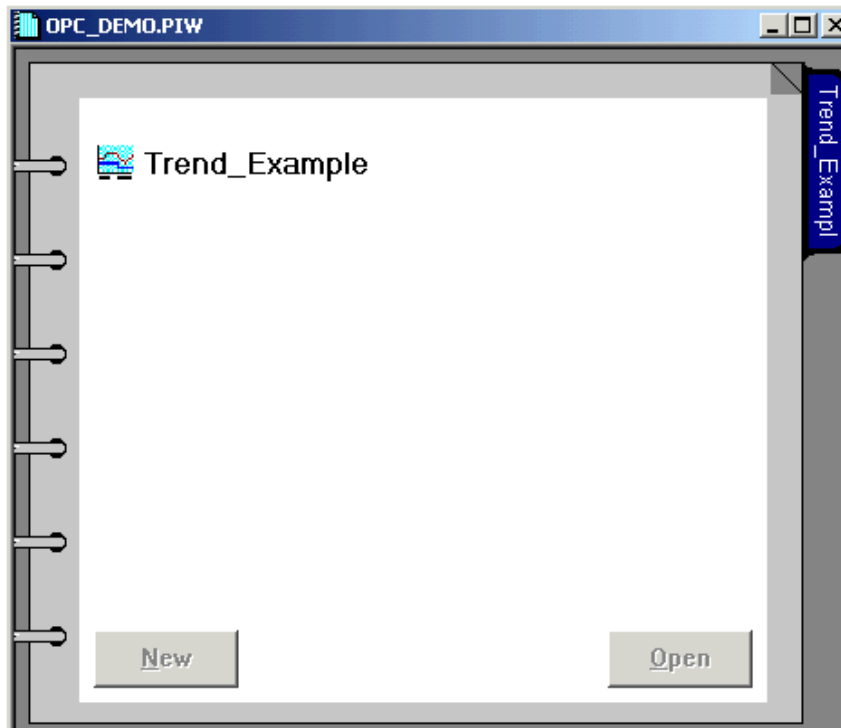
2.5 Viewing Tag Data in the Trend

Users should now see the values being plotted in the display. Users can adjust the plot times to make the data display as desired.



2.6 Saving and Closing the Project

Save and close the display window. At this point, the new display "Trend_Example" should be visible in the ProcessBook. Then, save and close the ProcessBook.



Note: At this point, users should be able to connect and display data from KEPServerEX with OSI PI. For more information, contact an OSI PI representative.

3. Using Kepware's OPC Client

Kepware provides an OPC client application with each installation of KEPServerEX for testing purposes. For more information, refer to the OPC Quick Client help file.