Application Note 106

Using National Instruments Lookout with Hach's OPC Servers

Introduction

This document details how to connect the Hach's Mod-IO Explorer to National Instruments Lookout OPC Client Driver. Lookout uses the OPC Client Driver to read from and write to any OPC server.
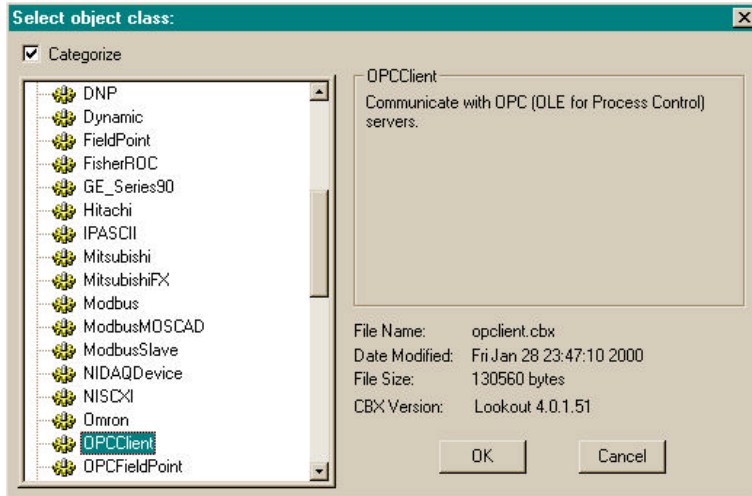
Install and Configure the Mod-IO Explorer

Refer to the Hach Mod-IO manual #57100-18 for details on installing and configuring the Mod-IO and Mod-IO Explorer software.
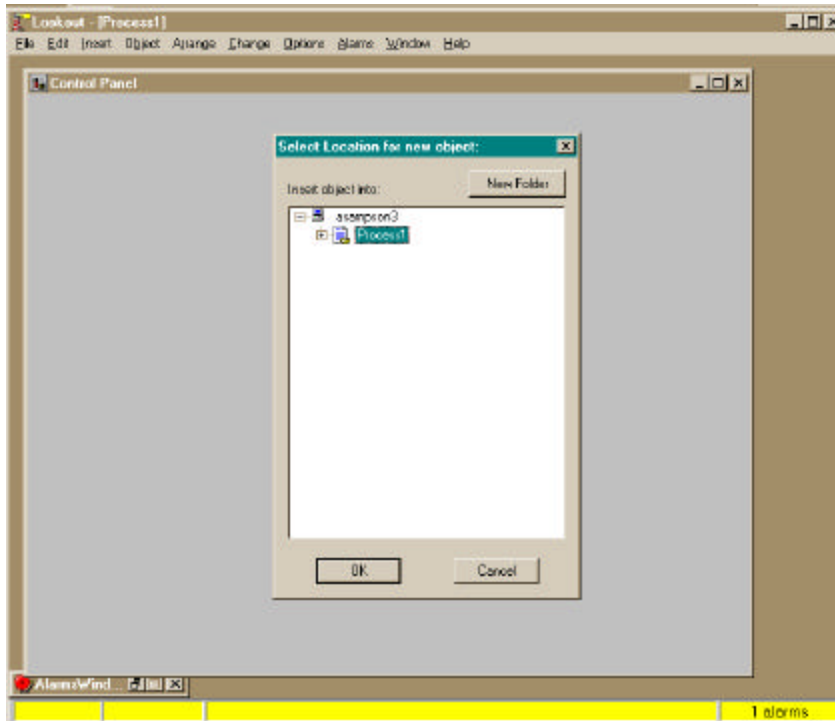
Creating an OPC Client

To create an OPC Client select Object,Create from the Lookout menu bar and in the Select Object class dialog, select Drivers,OPCClient. Then Click OK.
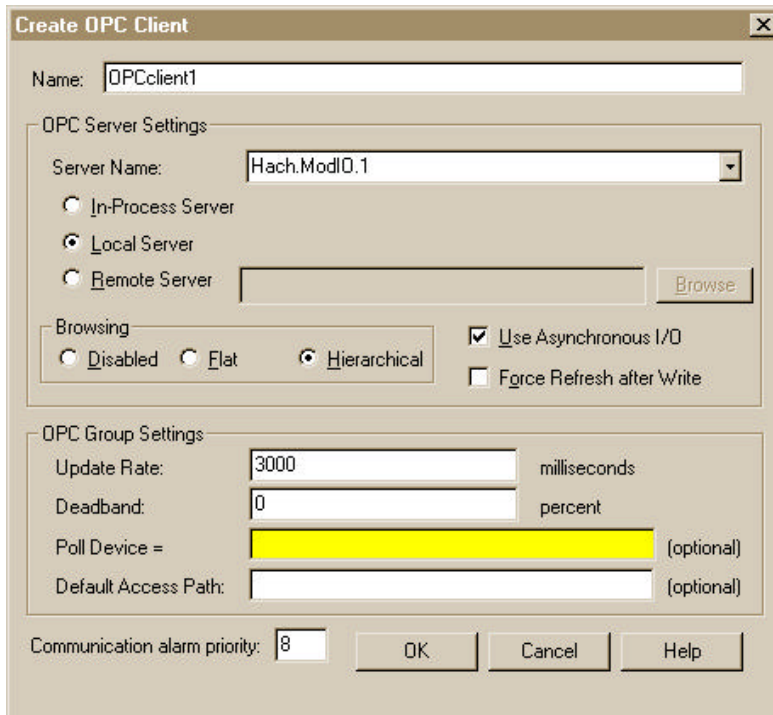

1
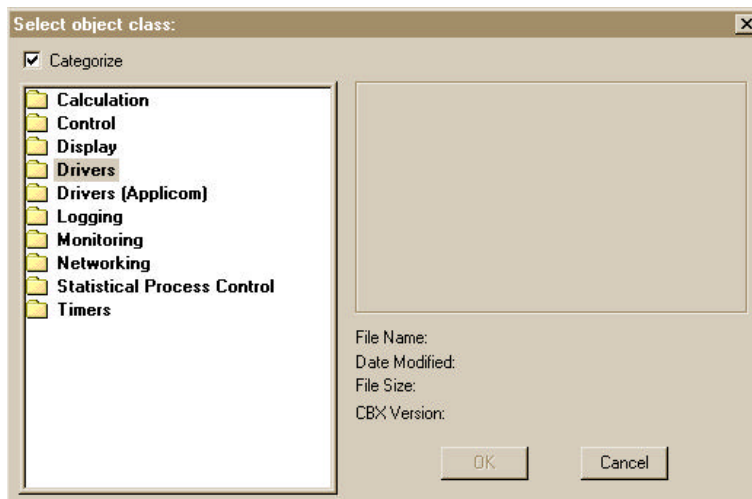
2

Click Ok in the Select Location for New Object Dialog.

3

In the Create OPC Client dialog, select Hach.ModIO.1 from the Server Name drop down list box. Enter 3000 (3 seconds) for the Update Rate and click OK.

Create OPC Client

Name: OPCclient1

OPC Server Settings

Server Name: Hach.ModIO.1

○ In-Process Server
● Local Server
○ Remote Server _____ Browse

Browsing
○ Disabled ○ Flat ● Hierarchical

☑ Use Asynchronous I/O
☐ Force Refresh after Write

OPC Group Settings

Update Rate: 3000 milliseconds
Deadband: 0 percent
Poll Device = (optional)
Default Access Path: (optional)

Communication alarm priority: 8   OK   Cancel   Help

4   **4.5**

The Mod-IO explorer should automatically fire up and its icon should be visible in the Start menu bar located at the bottom of your screen.
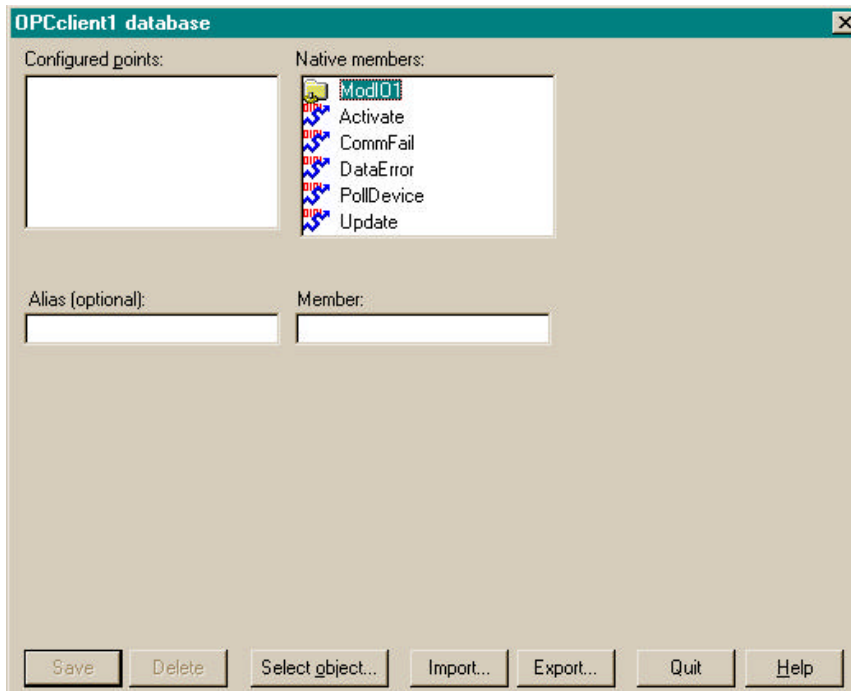

Editing the Database

By placing the tag in the Lookout database, one can view historical trends.
Select Edit,Object Database from the Lookout menu bar and OPCclient1 from the selection tree under your computer name (asampson3 for this example). Then click OK.
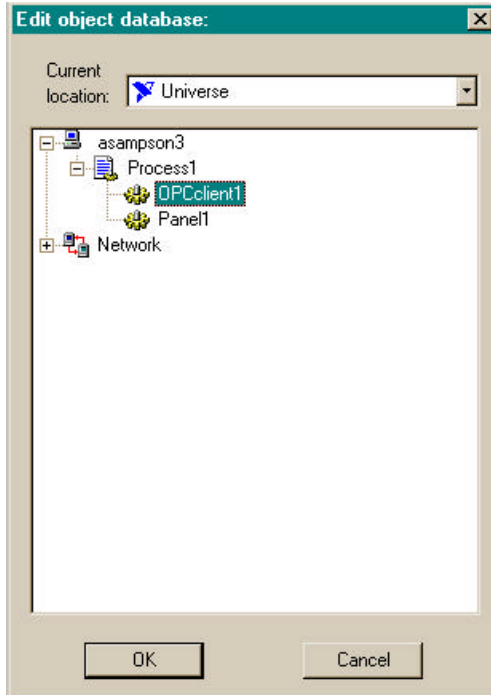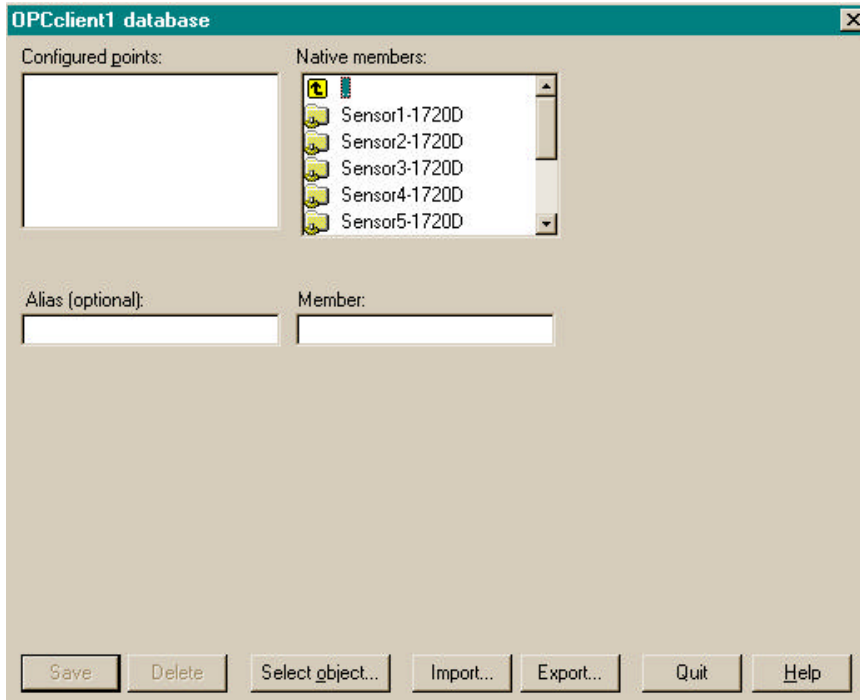
5

Double click on ModIO1 folder in the Native Members list box of the OPCclient database dialog.
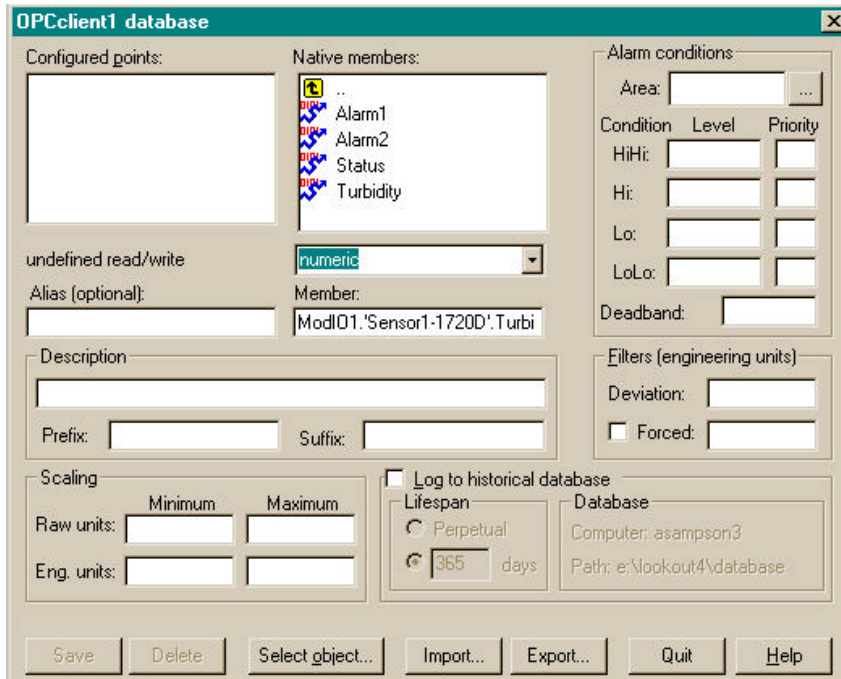

6

Double click on the sensor folder of your choice in the Native Members list box (Sensor1-1720D for this example).


7

Select Turbidity from the Native members list and numeric in the undefined read/write drop down list box.
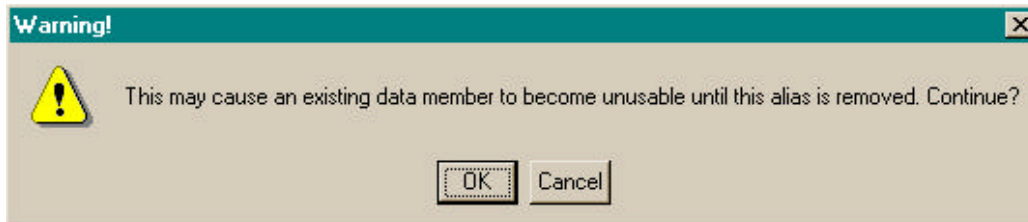

8

Enter an Alias (Sensor1Turbidity for this example). Select the Log to historical database check box and enter 0.001 (resolution of the 1720D turbidimeter) in the Deviation text box. If an analog value surpasses or equals the Deviation setting, Lookout saves a new value to disk in the database. You can reduce the amount of disk space required for the database by increasing the Deviation value. *See your Lookout documentation for additional details on the database parameters.* Next click the Save button.
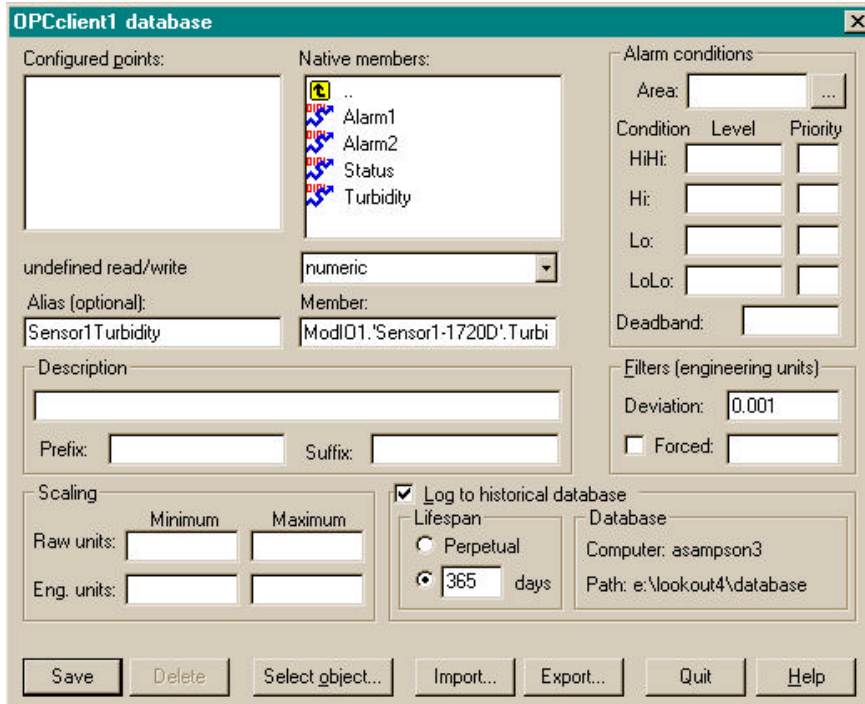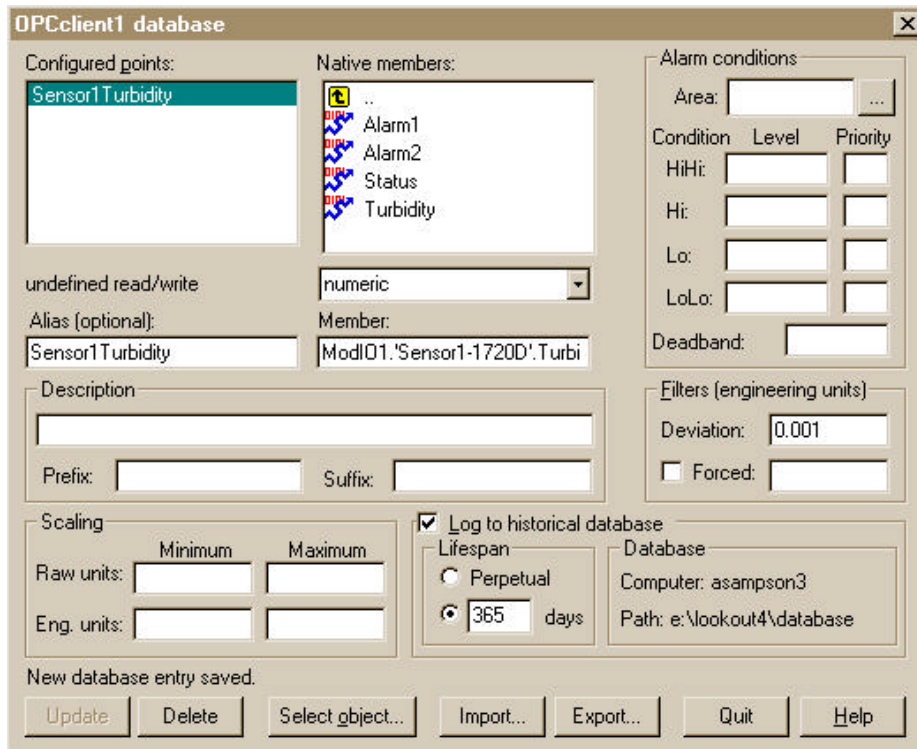

9

Click Ok on the Warning dialog.

10

Click the Quit button on the OPCclient1 database dialog.

OPCclient1 database

Configured points:
- Sensor1Turbidity

Native members:
- ..
- Alarm1
- Alarm2
- Status
- Turbidity

undefined read/write — numeric

Alias (optional):
Sensor1Turbidity

Member:
ModIO1.'Sensor1-1720D'.Turbi

Alarm conditions

Area:

Condition	Level	Priority
HiHi:		
Hi:		
Lo:		
LoLo:		

Deadband:

Description

Prefix: Suffix:

Filters (engineering units)
Deviation: 0.001
☐ Forced:

Scaling

	Minimum	Maximum
Raw units:		
Eng. units:		

☑ Log to historical database

Lifespan
- ○ Perpetual
- ● 365 days

Database
Computer: asampson3
Path: e:\lookout4\database

New database entry saved.

Update | Delete | Select object... | Import... | Export... | Quit | Help
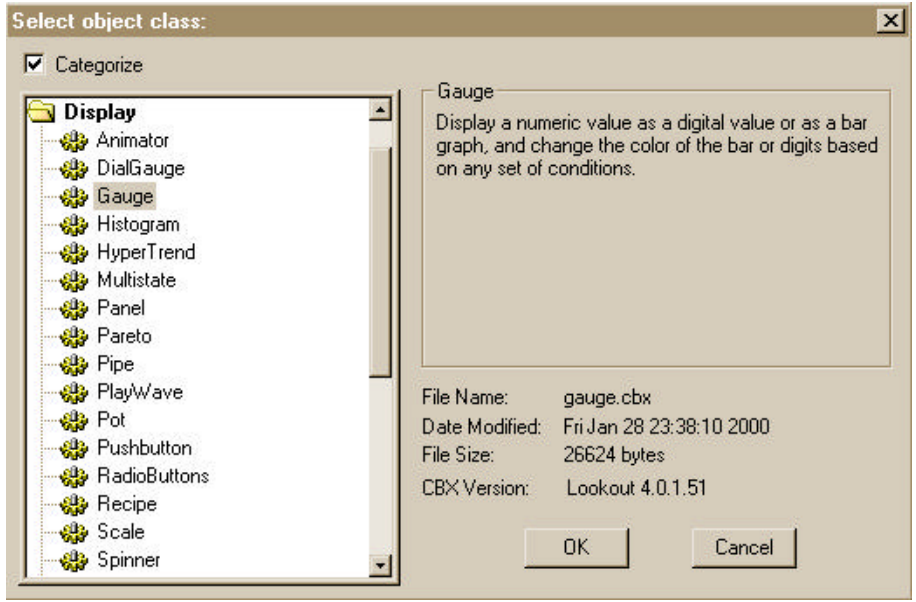
11

Refer to your Lookout documentation for details on how to display a historical trend chart.
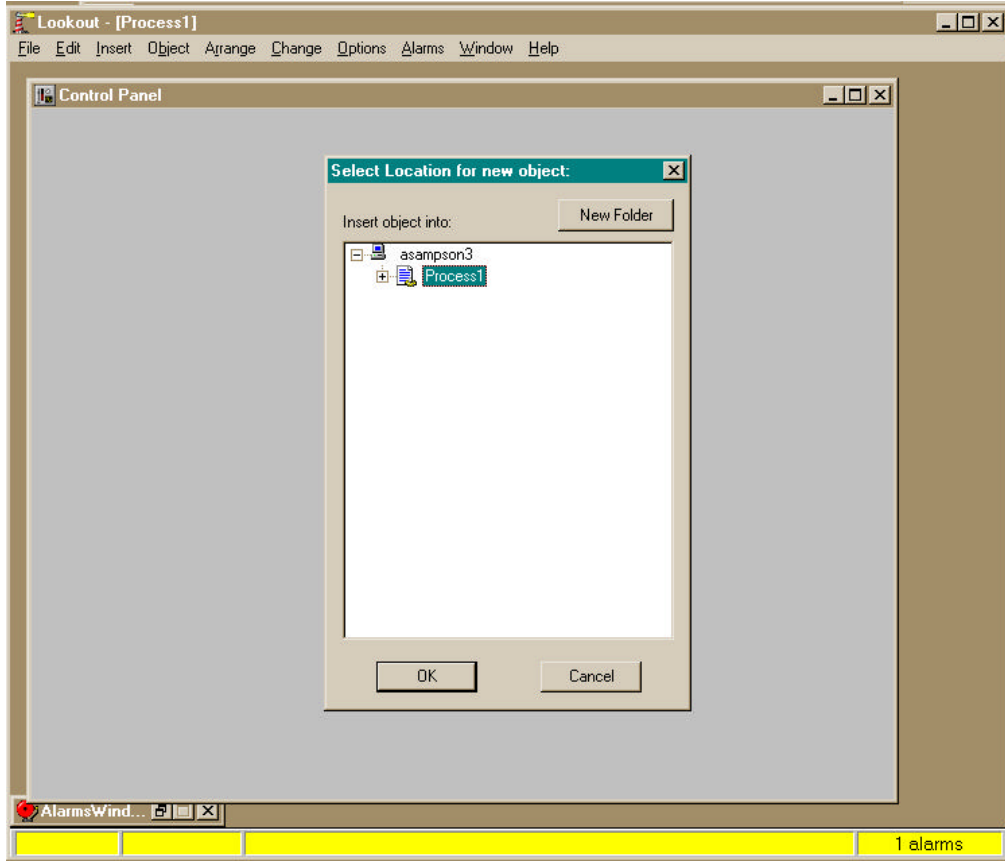
Displaying a real time reading on a panel

A gage can be created to display a reading on a panel. To create a gage object, select Object,Create from the Lookout menu bar. Select Diplay,Gauge in the Select object class dialog and click OK.
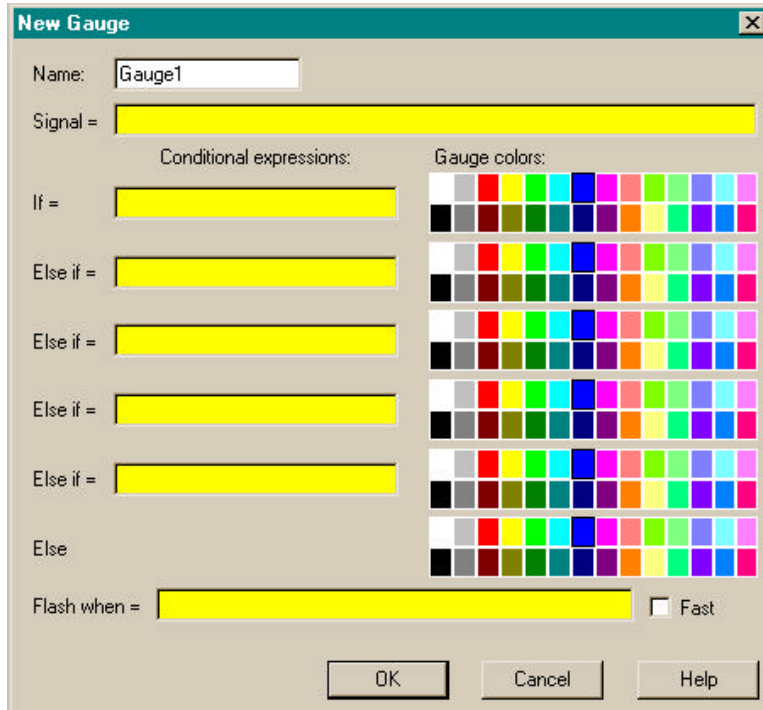
12

Click Ok on the Select Location for new object dialog.
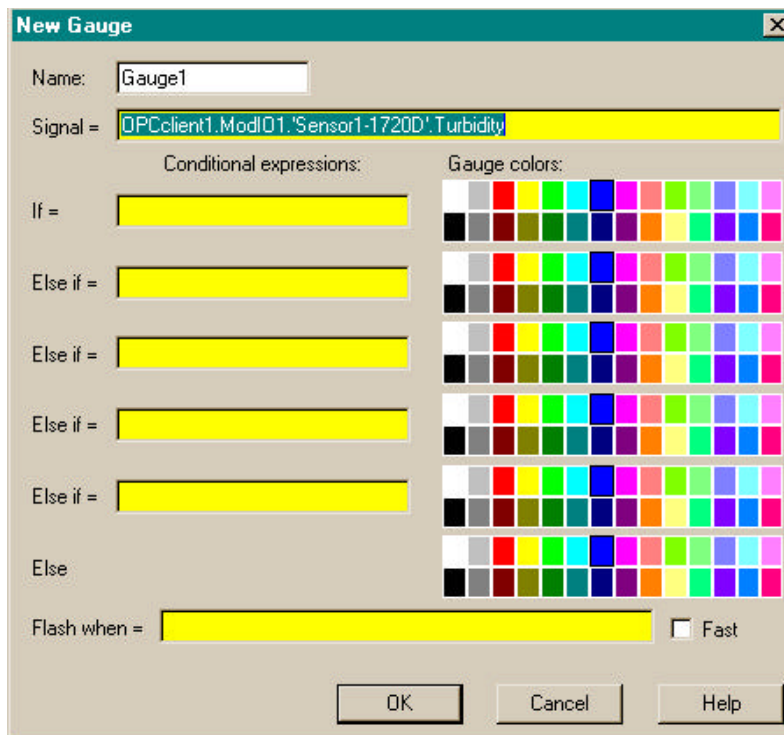

3

Right click in the Signal = text box.

13

Select Sensor1-1720D in the left hand list box and Turbidity in the Right hand list box of the Expression Editor dialog. Next click the Paste button to insert the path "OPCclient1.ModIO1.'Sensor1-1720D'.Turbidity" in the top yellow text box of the Expression Editor. Then click OK.
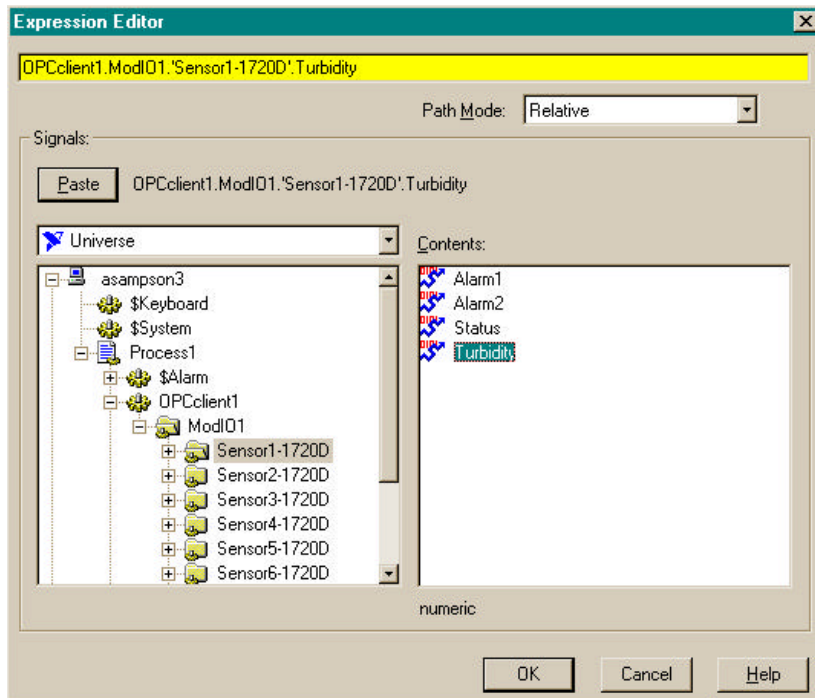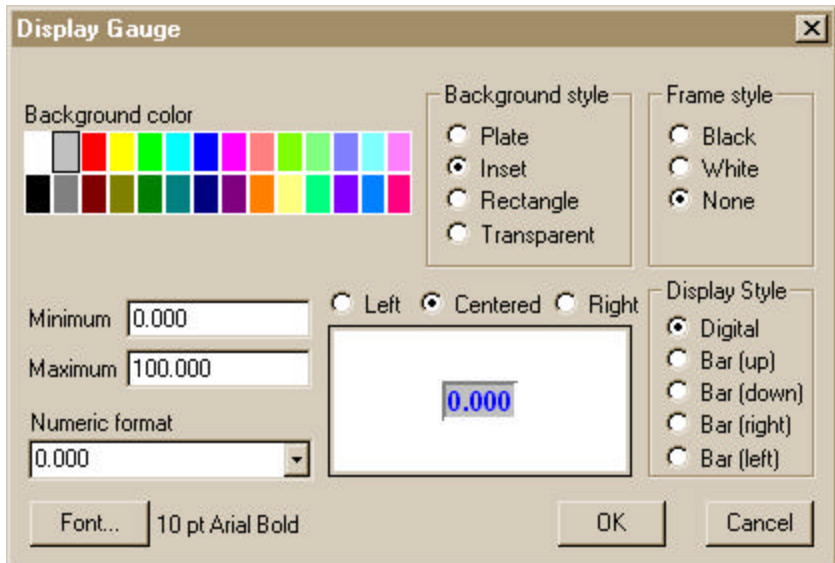
14

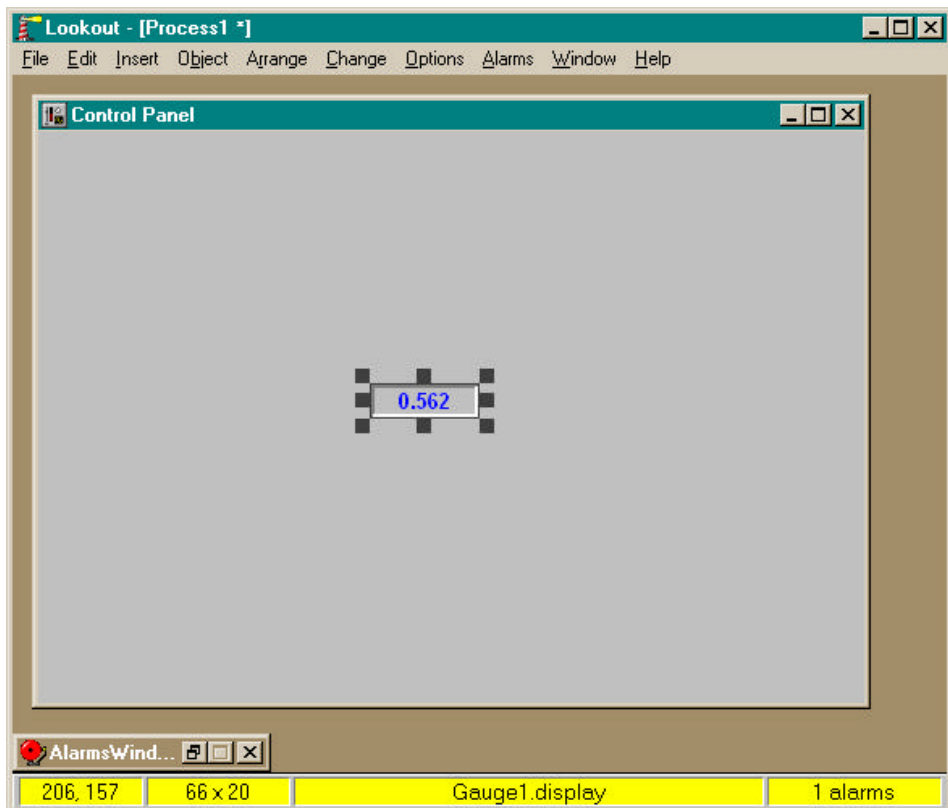Click Ok to close the New Gauge dialog.

15

Select Digital for the Display Style in the Display Gauge dialog, 0.000 for the Numeric format, and click OK.

16

The real time reading is now displayed on the Panel and the process can be saved by selecting File,Save from the Lookout menu bar.

17