



# Kepware Technologies

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## Client Connectivity Guide for Trihedral VTS

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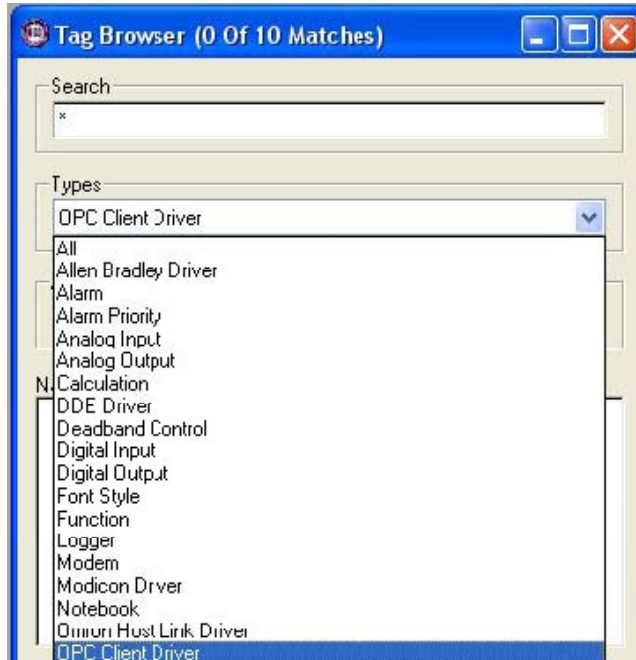
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# 1. Overview

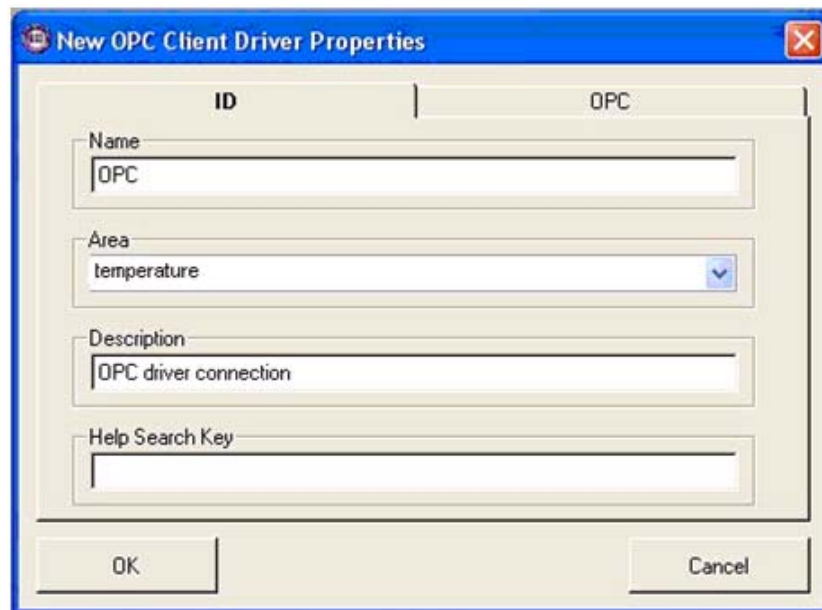
This document intends to discuss how to connect to KEPServerEX from Visual Tag System (VTS) 7.1 as both an OPC client and a DDE or NetDDE client.

## 1.1 Connecting to KEPServerEX Using VTS as an OPC Client

1. To start, open the VTS project and locate the **Overview** window. Then, click **Configure**.
2. Next, click the **Browser** icon. In the **Types** drop-down menu, locate and select **OPC Client Driver**.

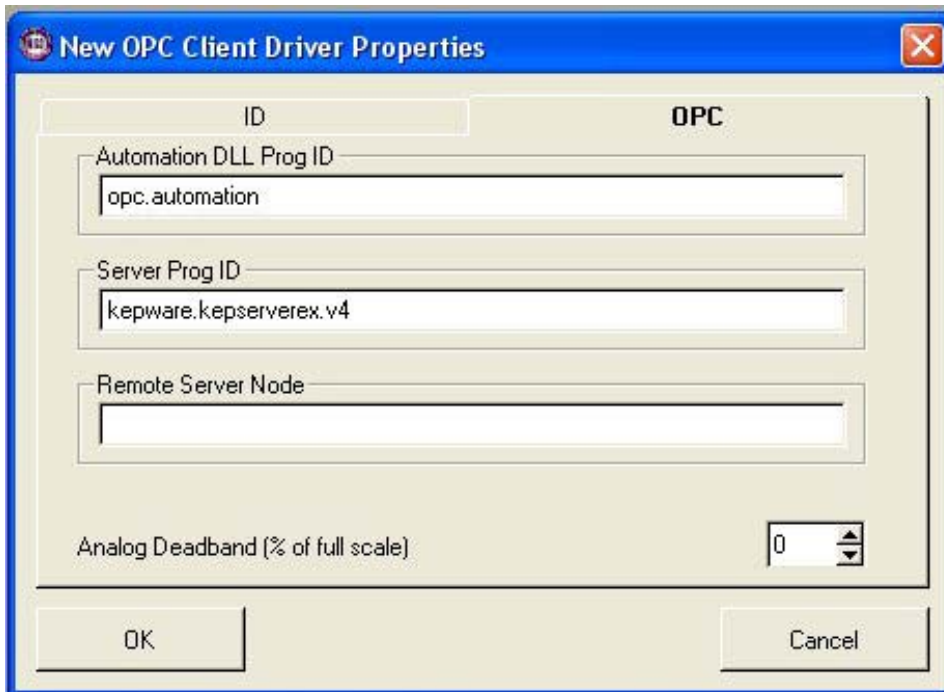


3. Click **New** to open the **OPC Client Driver Properties**.
4. In **Name**, enter a name for the new driver. In this example, "OPC" is used. Then, press **Enter**.



**Note:** Pressing **Enter** once text is specified in the text boxes ensures that the information registers with the program.

5. In **Area**, enter a unique name that will be easy to identify when creating tags. It also organizes and links tags. In this example, "temperature" is used.
6. In **Description**, enter a short description of the driver for organizational purposes. Although this field is optional, it is very useful when browsing connections and tags in the browser window.
7. Next, open the **OPC** tab. In **Automation DLL Prog ID**, enter "opc.automation".
8. In **Server Prog ID**, enter "Kepware.KEPServerEX.v4".

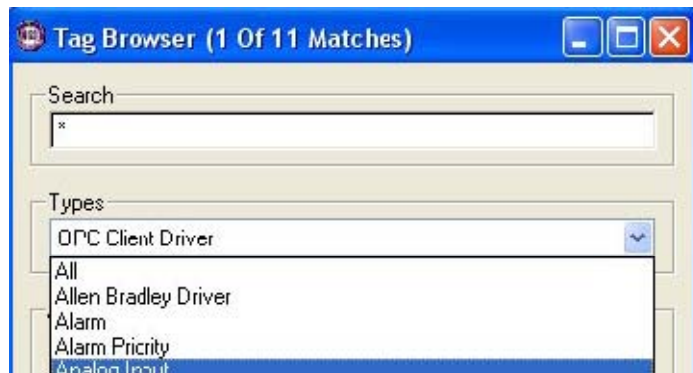


**Note:** The Server Prog ID is different for Kepserver Enterprise. To find the ID, launch the OPC Quick Client from the server. Then, right-click on the server name at the root of the tree hierarchy and view its properties.

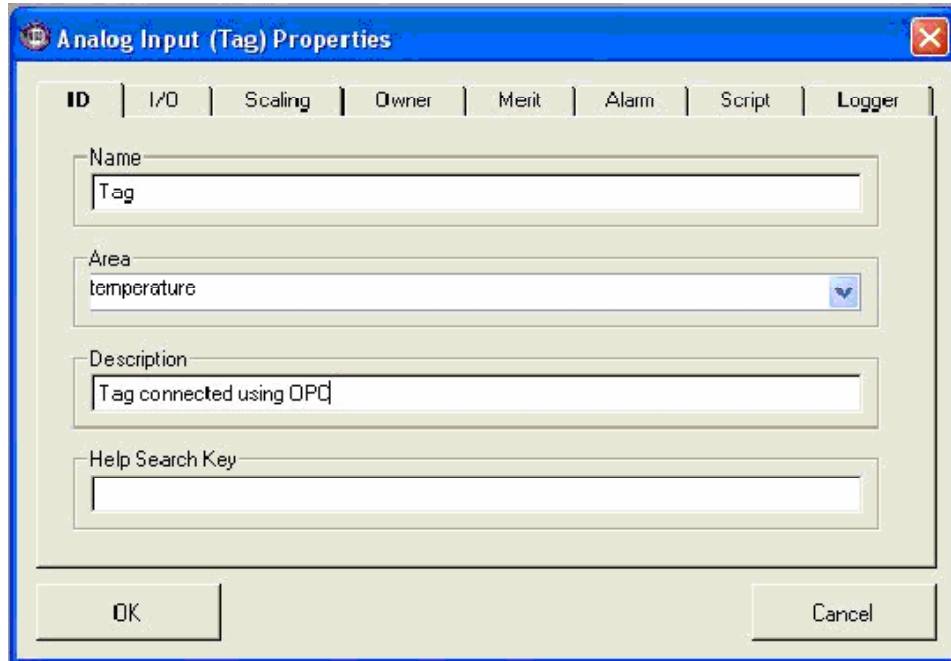
9. To connect to a remote server, enter the remote machine name or the IP Address in **Remote Server Node**.
10. Once finished, click **OK**.

### 1.1.1 Creating a Tag

1. To create a tag, click the **Browser** icon. In the **Types** drop-down menu, locate and select **Analog Input**.



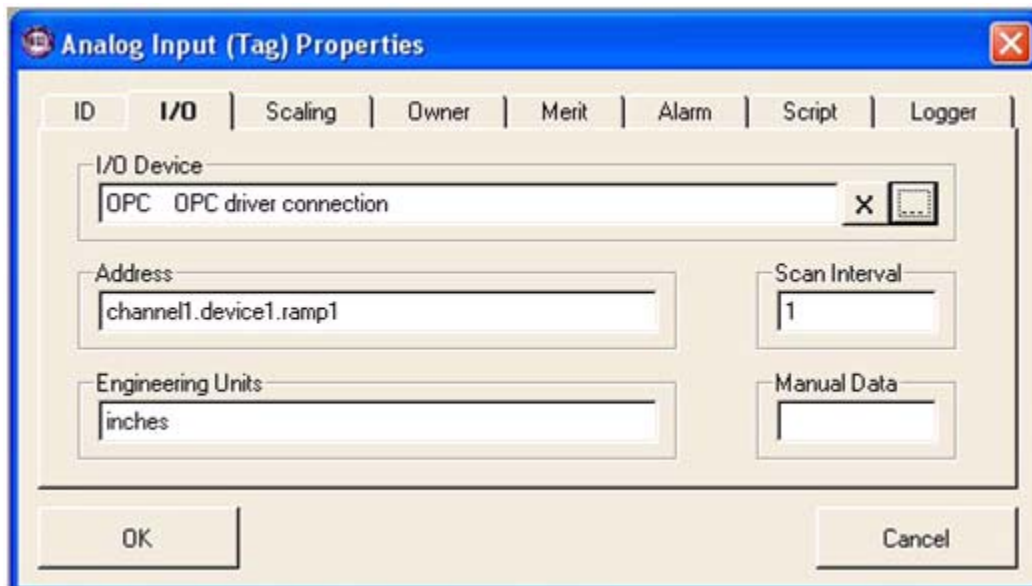
2. Then, click **New** to open the **Analog Input Properties**.



The screenshot shows the 'Analog Input (Tag) Properties' dialog box with the 'Name' tab selected. The dialog has a blue title bar and a close button in the top right corner. Below the title bar is a tabbed interface with tabs for 'ID', 'I/O', 'Scaling', 'Owner', 'Merit', 'Alarm', 'Script', and 'Logger'. The 'Name' tab is active, showing four text input fields: 'Name' (containing 'Tag'), 'Area' (containing 'temperature'), 'Description' (containing 'Tag connected using OPC'), and 'Help Search Key' (empty). At the bottom are 'OK' and 'Cancel' buttons.

3. In **Name**, enter a unique name for the tag. In this example, "Tag" is used. Then, press **Enter**.
4. In **Area**, select the name that was specified during driver creation. In that example, "temperature" was used. This name links tags to the driver.
5. In **Description**, enter a short description of the tag for organizational purposes. Although this field is optional, it is very useful when browsing connections and tags in the browser window.
6. Next, open the **I/O** tab. The **I/O Device** parameter should read "No Tag Selected".
7. Click the **Browse** icon, and then locate and select the OPC device created earlier. Then, click **Select**.

**Note:** The name should now be visible in **I/O Device**.

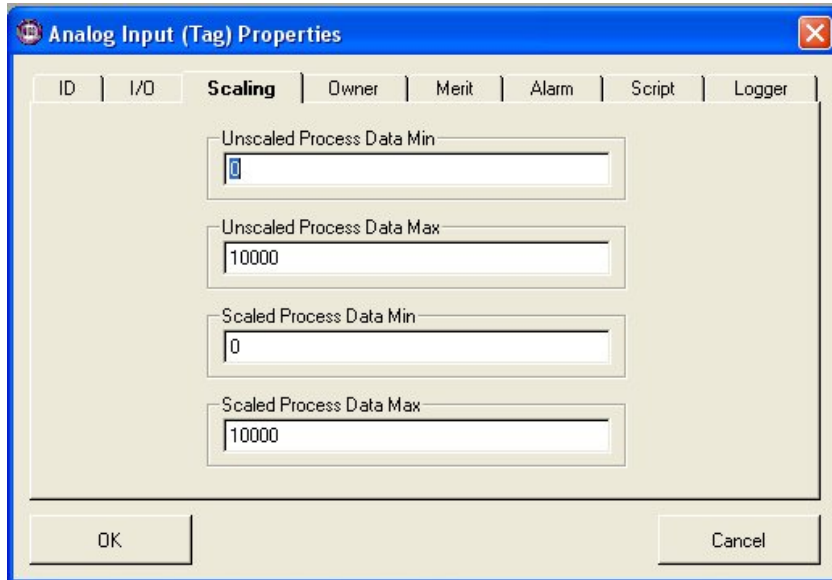


The screenshot shows the 'Analog Input (Tag) Properties' dialog box with the 'I/O' tab selected. The 'I/O Device' field now contains 'OPC OPC driver connection' and has a browse icon to its right. Below this are three more fields: 'Address' (containing 'channel1.device1.ramp1'), 'Engineering Units' (containing 'inches'), and 'Scan Interval' (containing '1'). There is also a 'Manual Data' field which is empty. At the bottom are 'OK' and 'Cancel' buttons.

- In **Address**, enter the address of the tag located in KEPServerEX using the following format: *channelname.devicename.tagname*. In this example, "channel1.device1.ramp1" is used. Another example of an acceptable address is "channelA.simulator.r0001".

**Note:** The remaining **I/O** tab parameters are optional.

- Next, open the **Scaling** tab.



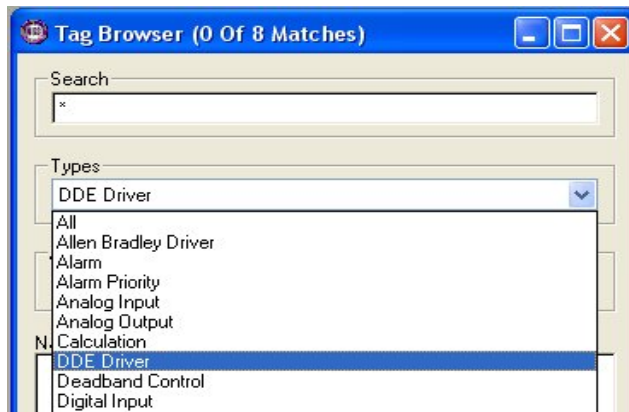
- In **Unscaled Process Data Min** and **Unscaled Process Data Max**, enter the raw data values for the server tag. Then, specify any scalar requirements in the remaining parameters, and click **OK**.
- Next, click the **Browser** icon. Select the tag name, and then click **Draw**.
- Select the **Meter 3** object and then specify where it will be placed on the workspace.



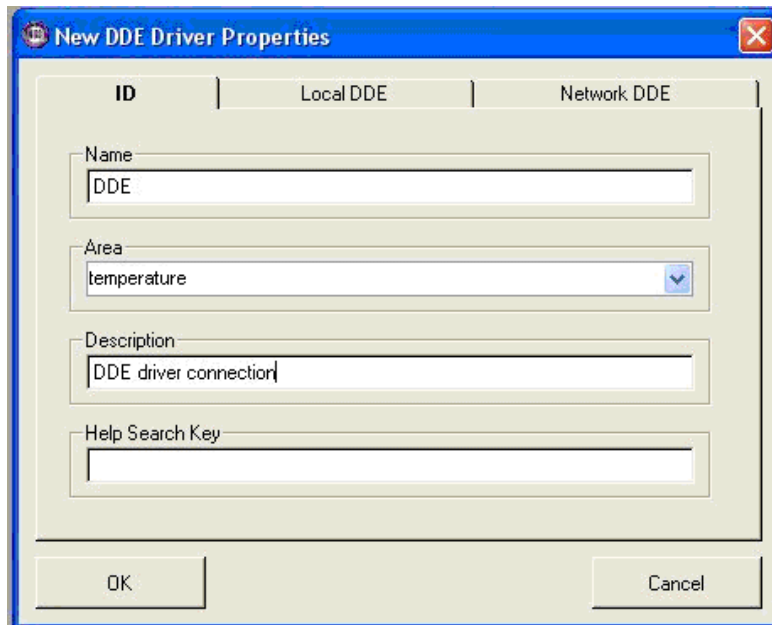
**Note:** Data should now be visible from the display meter.

## 1.2 Connecting to KEPServerEX Using VTS as a DDE/NetDDE Client

- To start, open the VTS project and locate the **Overview** window. Then, click **Configure**.
- Next, click the **Browser** icon. In the **Types** drop-down menu, select **DDE Driver**.



3. Click **New** to open the **DDE Driver Properties**.
4. In **Name**, enter a name for the driver. In this example, "DDE" is used. Then, click **Enter**.  
**Note:** Pressing **Enter** once text is specified in the text boxes ensures that the information registers with the program.
5. In **Area**, enter a unique name that will be easy to identify when creating tags. This name is used to organize and link tags. In this example, "temperature" is used.
6. In **Description**, enter a short description of the driver for organizational purposes. Although this field is optional, it is very useful when browsing connections and tags in the browser window.

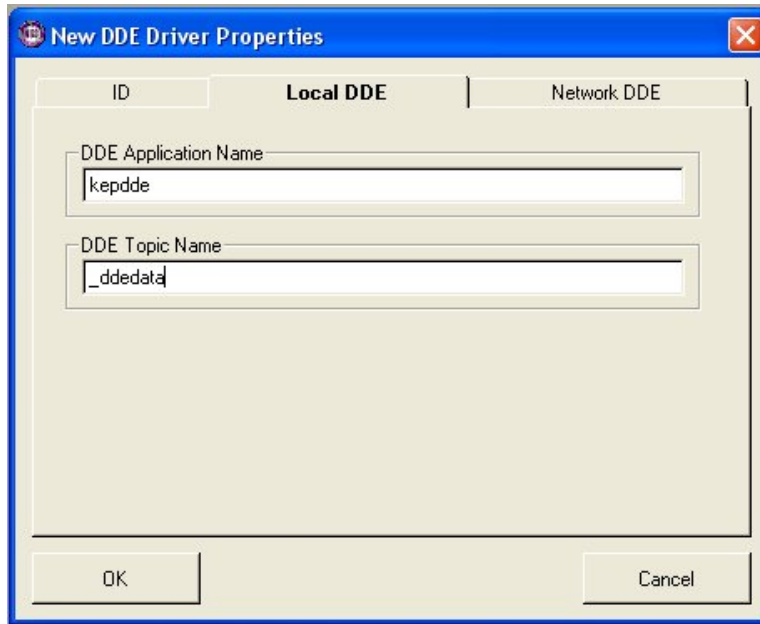


### 1.2.1 Configuring a DDE Driver

1. In **DDE Client Properties**, open the **Local DDE** tab.
2. In **DDE Application Name**, enter KEPServerEX's service name. The default name is "kepdde".

**Note:** To locate the service name, open the server and then click **Tools | Options**. Select the **DDE** tab, and then locate the **Service Name** parameter.

3. In **DDE Topic Name**, enter "\_ddedata".



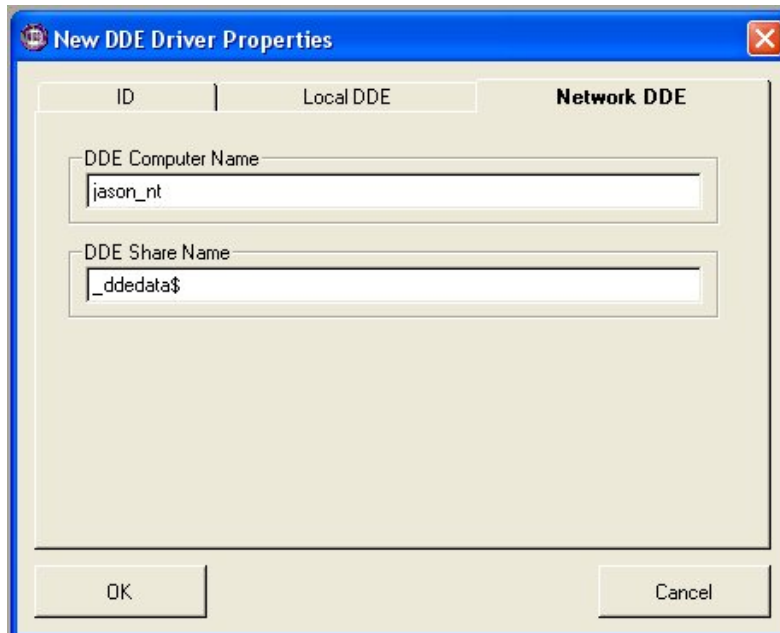
4. Once finished, click **OK**.

### 1.2.2 Configuring a NetDDE Driver

1. In **DDE Client Properties**, open the **Network DDE** tab.
2. In **DDE Computer Name**, enter the name of the machine running the remote server.

**Note:** Only use the computer name for this type of connection. IP addresses are not supported.

3. In **DDE Share Name**, enter "\_ddedata\$".

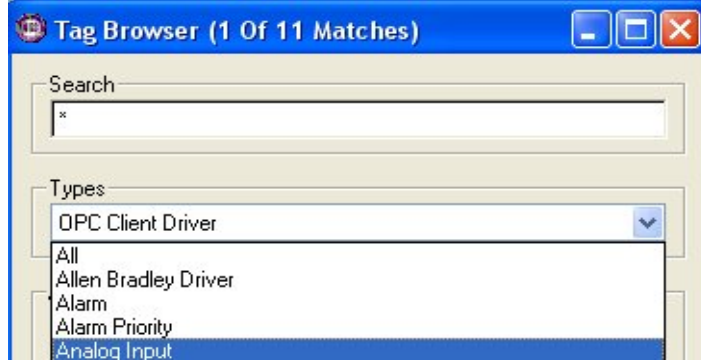


4. Once finished, click **OK**.

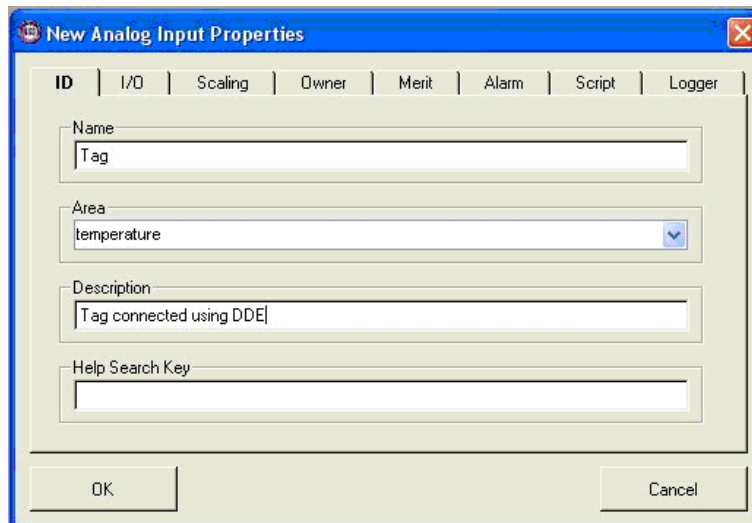


### 1.2.3 Creating Tags

1. To create a tag, click the **Browser** icon. In the **Types** drop-down menu, locate and select **Analog Input**.

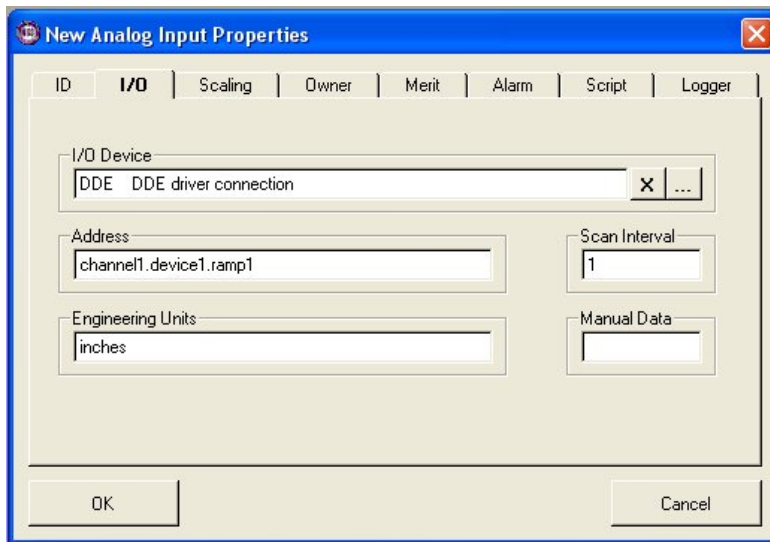


2. Next, click **New** to open the **Analog Input Properties**.
3. In **Name**, enter a unique name for the tag. In this example, "Tag" is used. Then, press **Enter**.
4. In **Area**, select the name that was entered during driver creation. In that example, "temperature" was used. This name links tags to the driver.
5. In **Description**, enter a short description of the tag for organizational purposes. Although this field is optional, it is very useful when browsing connections and tags in the browser window.



6. Next, open the **I/O** tab. The **I/O Device** parameter should read "No Tag Selected".
7. Click the **Browse** icon, and then locate and select the DDE or NetDDE device created earlier. Then, click **Select**.

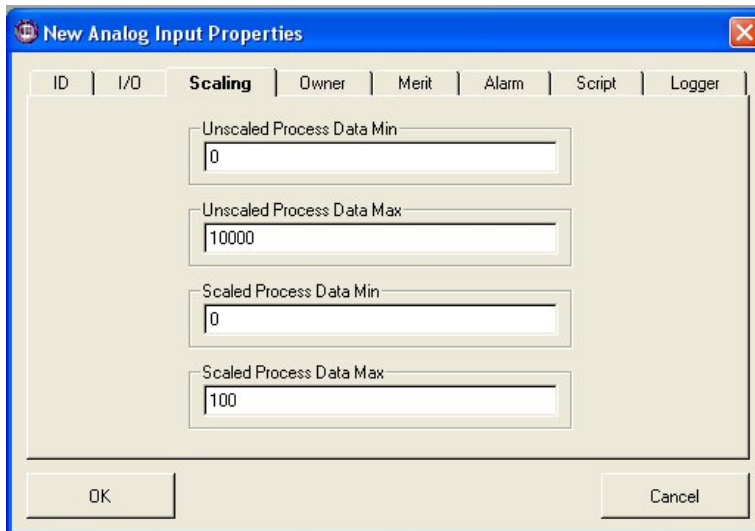
**Note:** The name should now be visible in **I/O Device**.



- In **Address**, enter the address of the tag located in KEPServerEX using the following format: *channelname.devicename.tagname*. In this example, "channel1.device1.ramp1" is used. Another example of an acceptable address is "channelA.simulator.r0001".

**Note:** The remaining **I/O** tab parameters are optional.

- Next, open the **Scaling** tab.



- In **Unscaled Process Data Min** and **Unscaled Process Data Max**, enter the raw data values for the server tag. Then, specify any scalar requirements in the remaining parameters, and click **OK**.

- Next, click the **Browser** icon. Select the tag name, and then click **Draw**.

- Select the **Meter 3** object and then specify where it will be placed on the workspace.



**Note:** Data should now be visible from the display meter.

## 2. 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.