



Configuring LabVIEW 2009 to Communicate with Acromag Busworks and Etherstax Modbus I/O Modules via an OPC Server

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Introduction

National Instruments LabVIEW can be used to monitor and control Acromag Busworks and Etherstax Modbus I/O Modules via an OPC server. A separate application note, **Configuring Kepware KEPServerEX 5.0 for Communications with Acromag Busworks and Etherstax Modbus I/O Modules**, outlines configuration of a KEPServerEX OPC server. This document focuses on setting up controls and indicators in LabVIEW to read and write the OPC server tag data.

The following hardware and software were used in the creation of this document:

- Microsoft Windows XP Professional – Service Pack 3
- LabVIEW 9
- Kepware KEPServerEX (version V5.0.1176.0 – U) with Modicon Modbus Driver Suite
- [Acromag Model ES2152](#) 16/16 Channel DC Voltage/Current Input (Modbus TCP/IP)

Note that this document does not cover the DCOM and firewall configuration settings required to allow remote clients to connect to the server. Good sources of information on this topic are the Kepware and OPC Foundation websites.

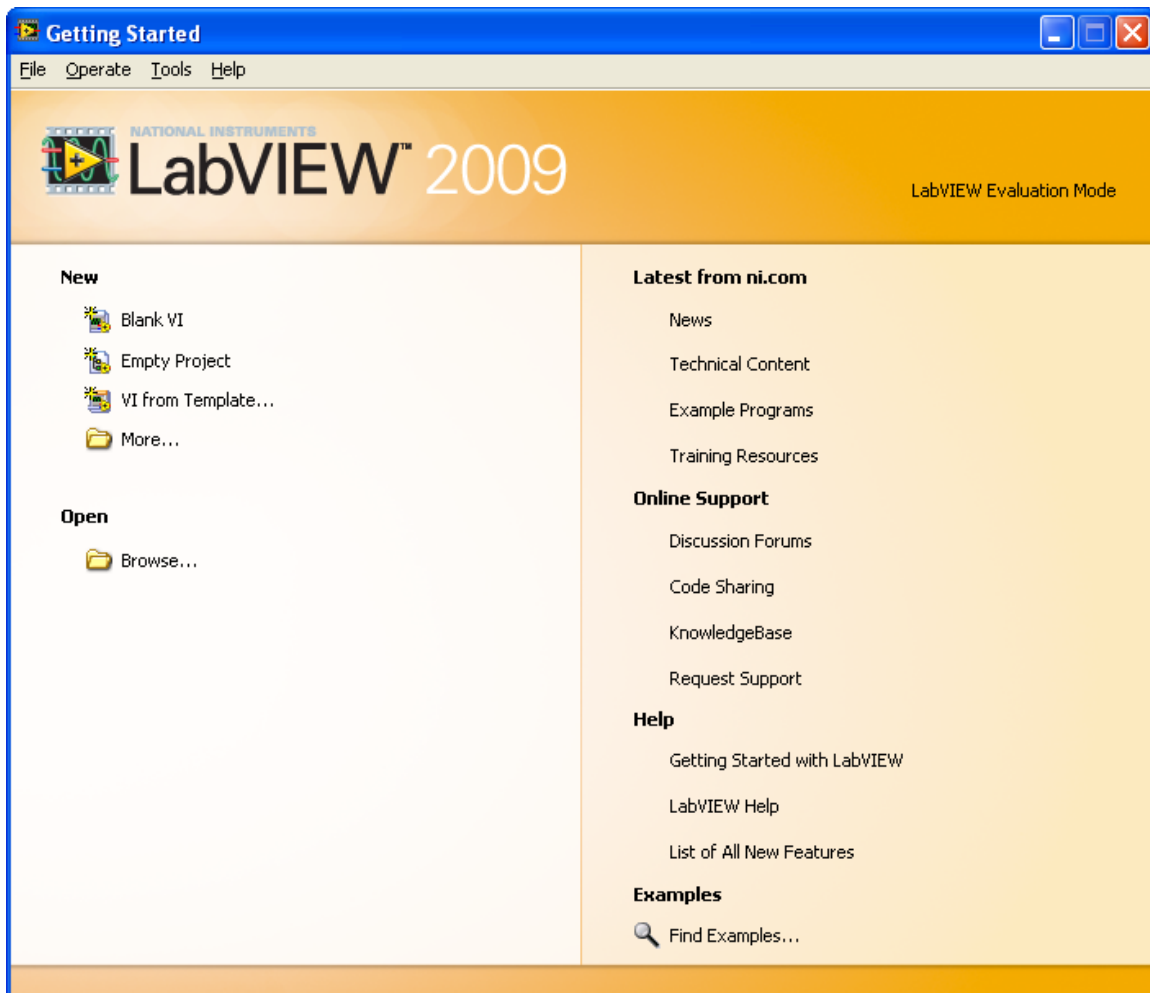
LabVIEW Client Example

The following example will create a simple LabVIEW application that will communicate with an [Acromag ES2152](#). The front panel of the application will have an indicator to read an input voltage.

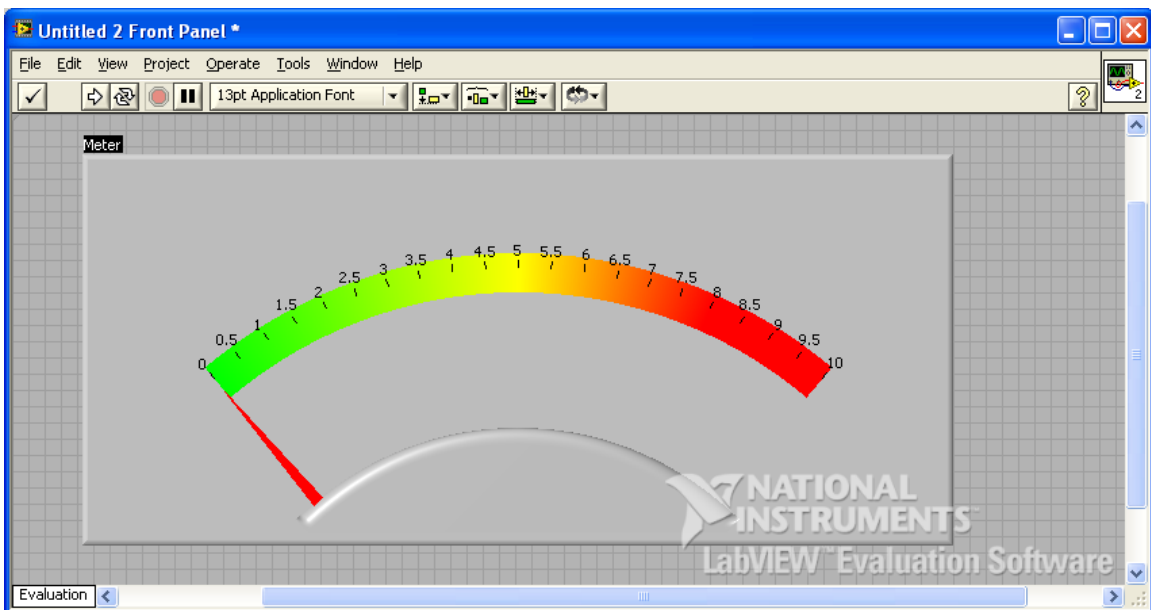
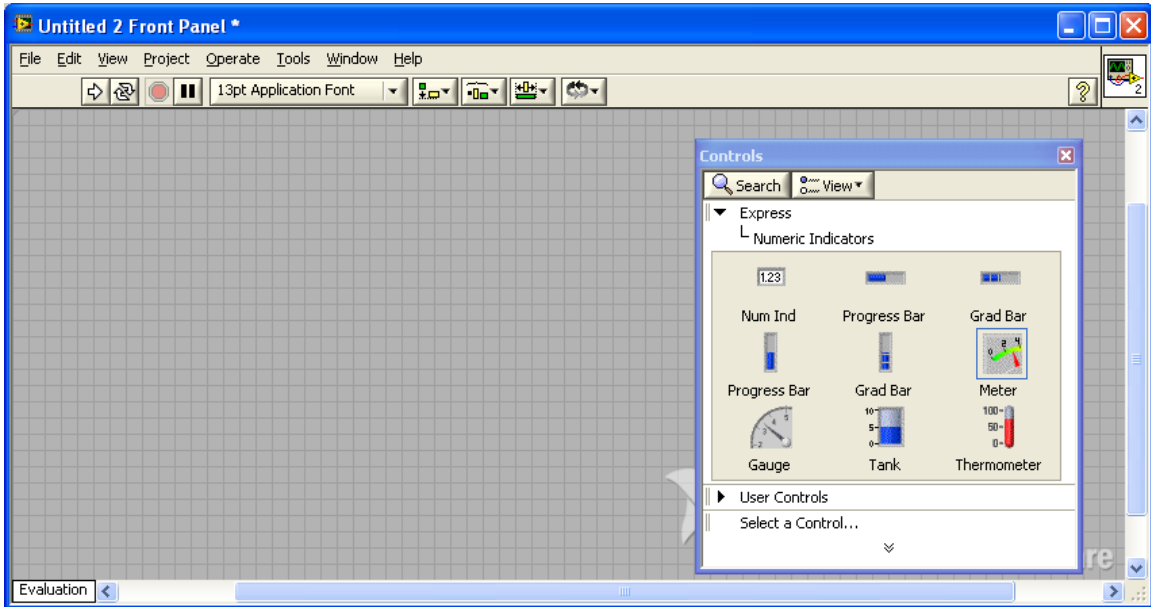
The OPC server was previously configured with two tags corresponding to the input voltage represented as float value and as an integer value:

Tag Name	Address	Data Type	Client Access
Voltage Input Channel 0 Int	30052	Word	Read Only
Voltage Input Channel 0 float	30100	Float	Read Only

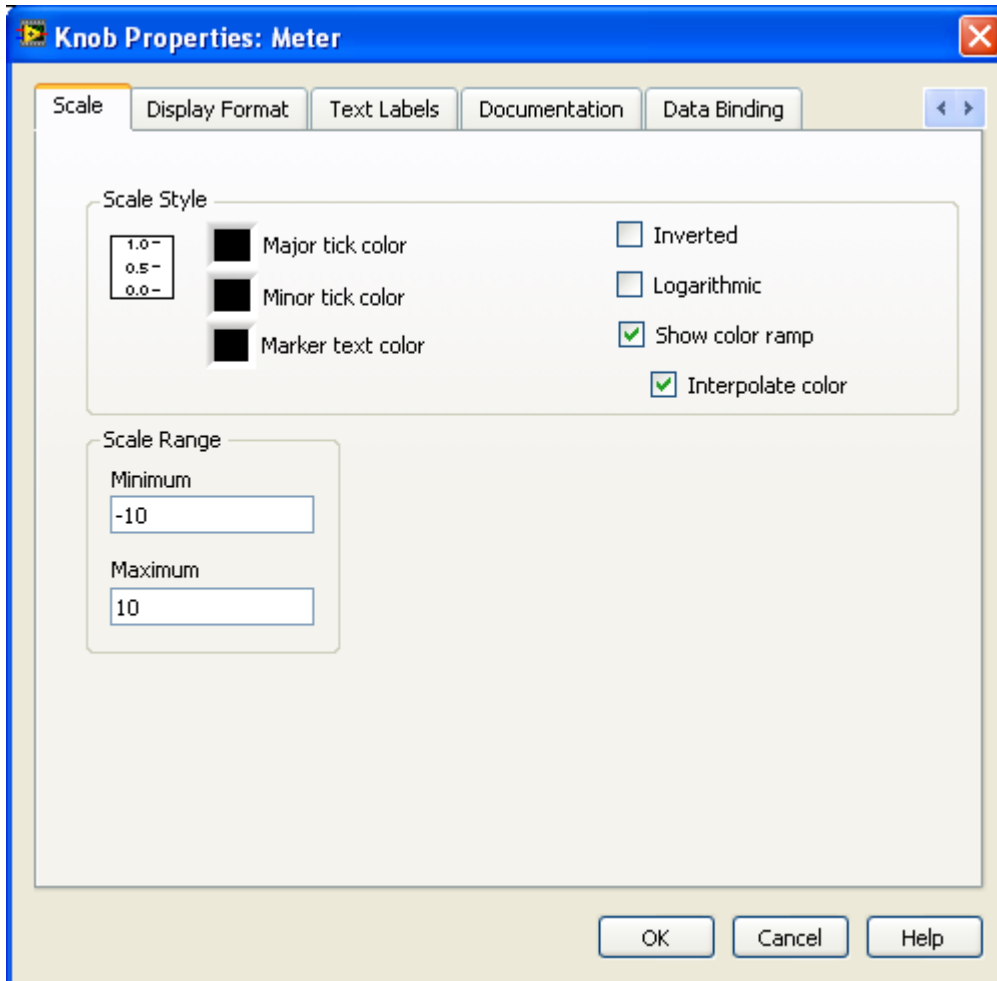
The following steps are used to create the LabVIEW application:

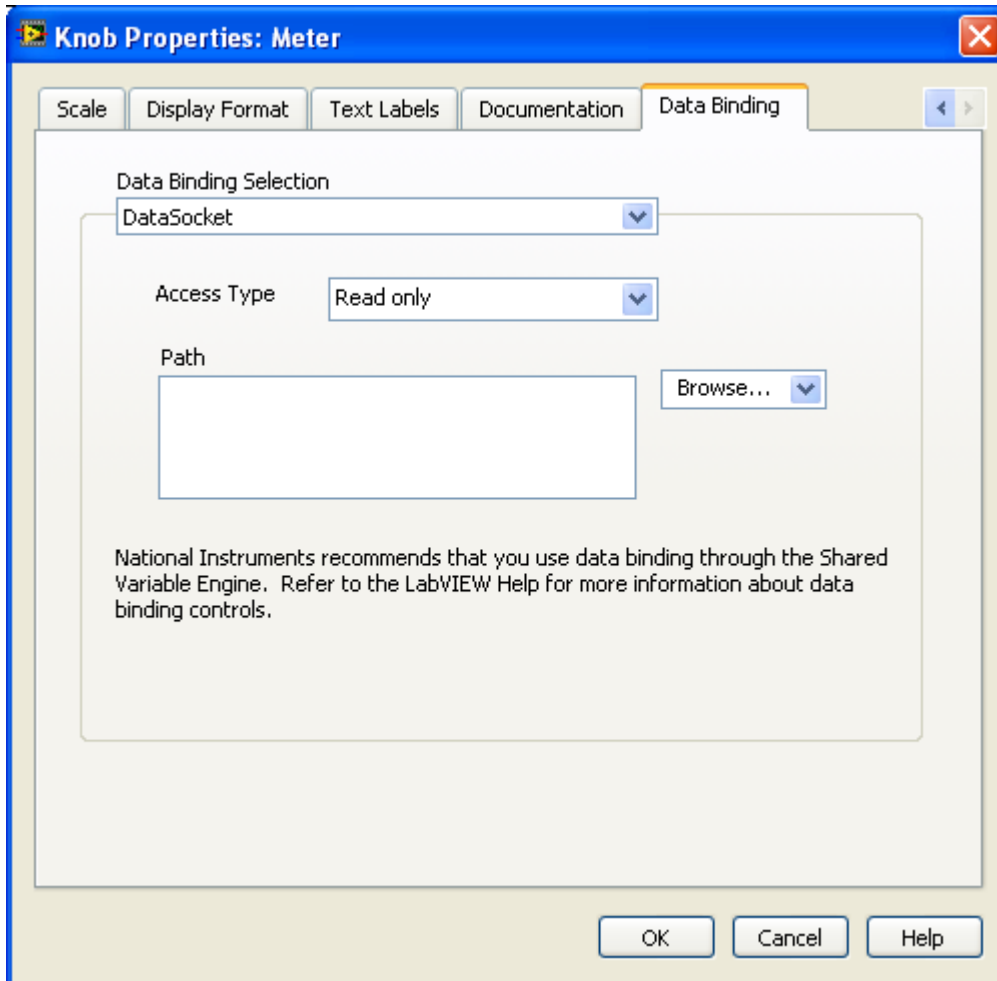


1. Launch LabVIEW 2009 and select **New Blank VI** from the start up screen.

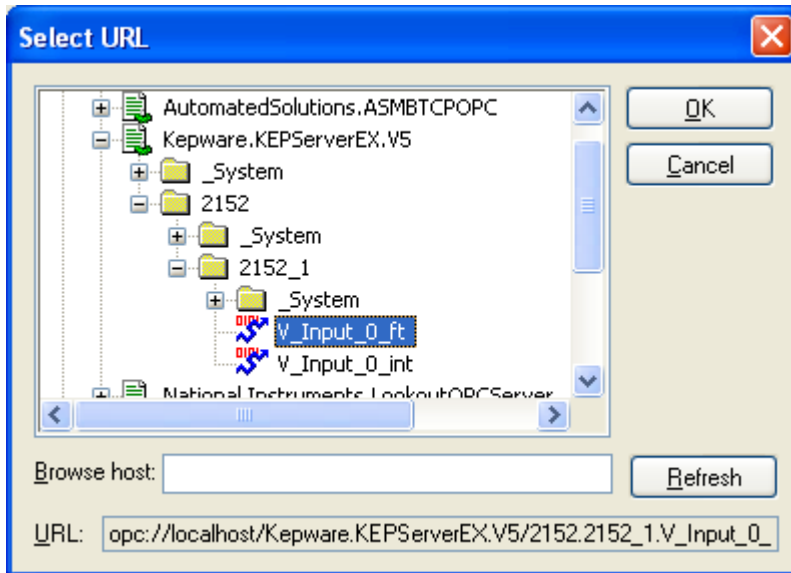


2. Add a Meter to the Front Panel, then drag the corner to expand its size. Change the scale of the meter to ± 10 by right clicking on the meter and selecting properties to bring up dialog box below.

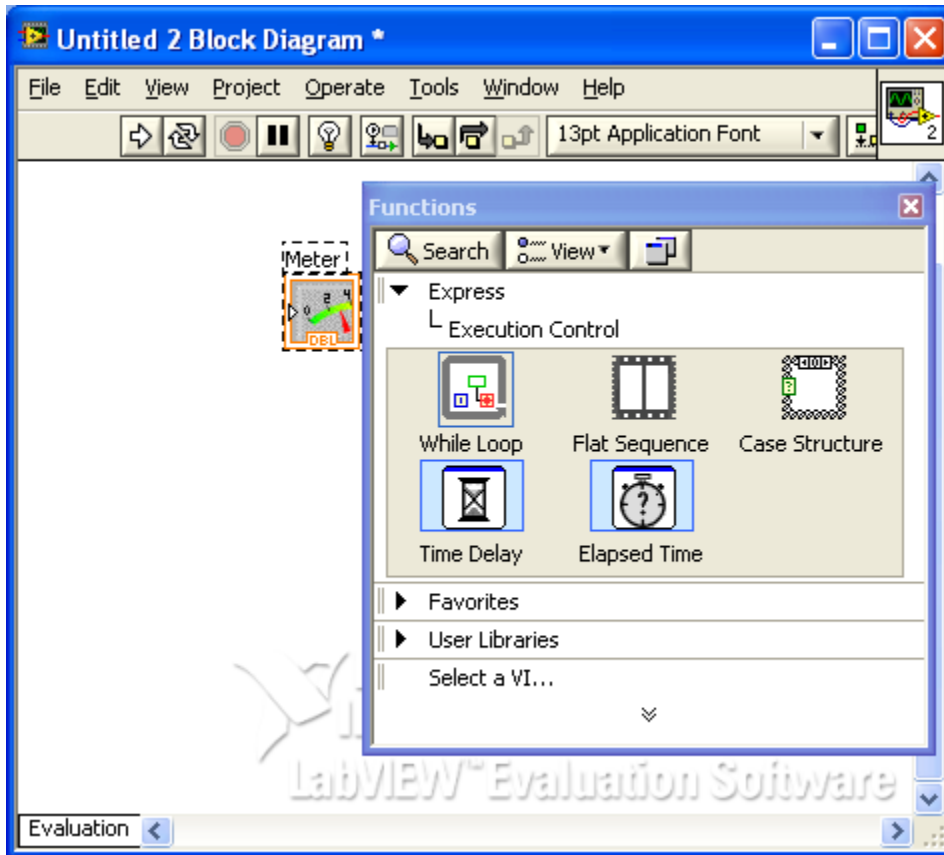




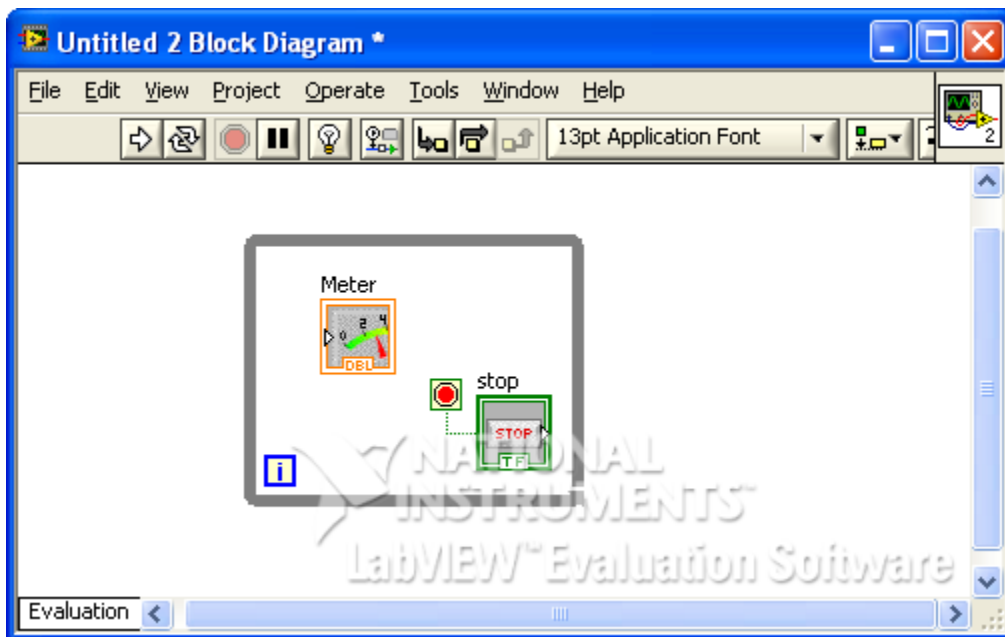
3. Once the scaling is set, click on the **Data Binding** tab. Select **DataSocket** for the **Data Binding Selection**. Then click on the Browse drop down box and select DSTP Server to bring up the box below.

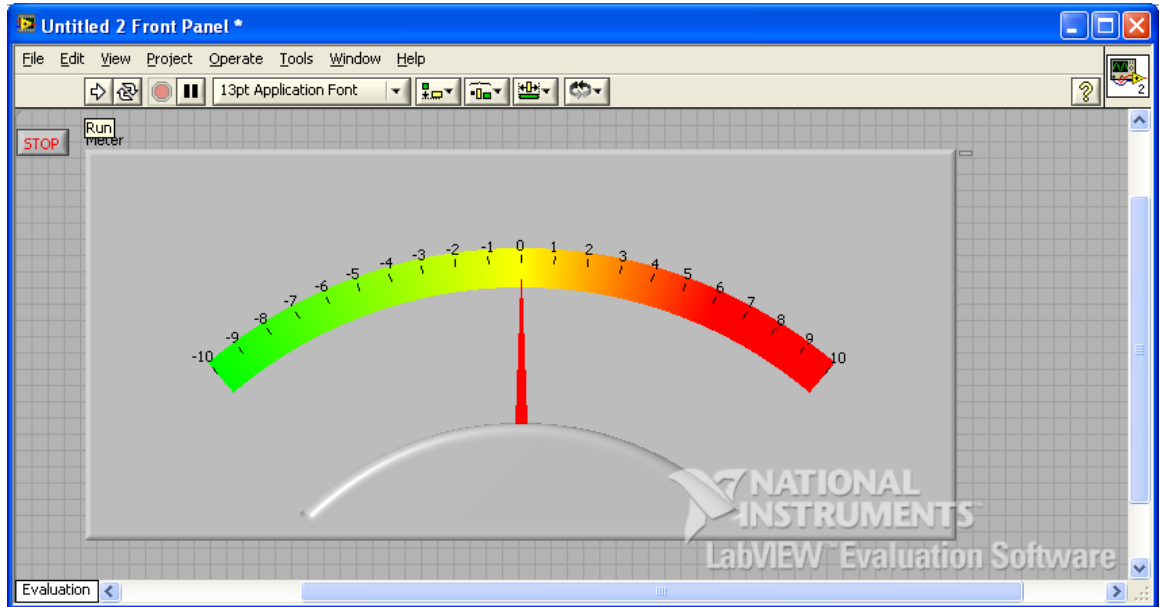


4. Expand the **Kepware.KEPServerEX.V5** tree until the ES2152 tags are exposed. Click on the **V_Input_0_ft** tag and click OK. Then click on OK again.



4. Switch to **Block Diagram** page and select the **While Loop** function. Then enclose the Meter block inside the **While Loop**. The **Stop** block will come with the **While Loop**. You should now have something similar to the window below.





5. The application is now complete. Test it by clicking the **Run** arrow icon on the **Front Panel** page above. You should now be able to control the Panel Meter by varying the voltage at the channel 0 input, see window below. Click **STOP** when finished.

