

TECH NOTE :: ClipX with DIAdem integration

Version: 2019-07-23

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Status: HBM: Public

Short description

This is an instruction for using ClipX with the data acquisition software DIAdem from National Instruments. Therefore only the ClipX_Diadem_Driver-Setup.exe installer is required. This tool can be downloaded from the HBM website. The driver uses the HBM ClipX API, which uses the object dictionary for communication with ClipX and the ClipX fifo memory for measurements. ClipX uses a fixed sample rate of 19.2 kHz. The transfer rate of the values from ClipX to DIAdem can be set from 0.1Hz to 1kHz.

This method uses a TCP/IP connection to the port 55000, so during the measurement with DIAdem, no other device can connect this port.

The following assumes that DIAdem is already installed.

Note: Please make sure to use the latest driver from our website:

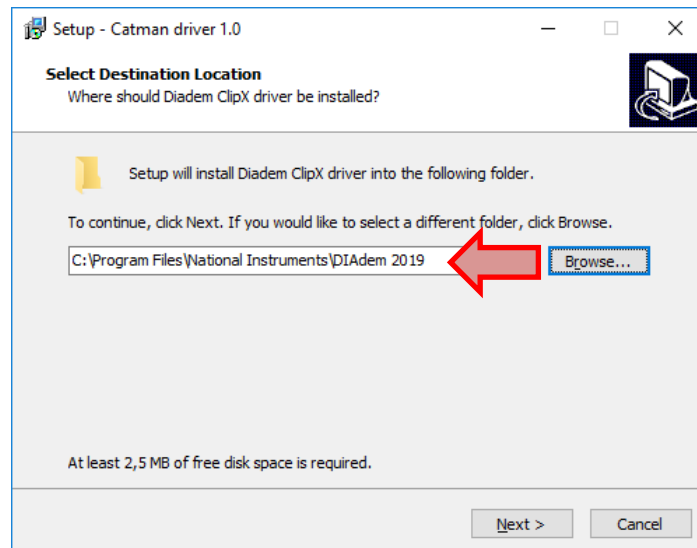
<https://www.hbm.com/en/7077/clipx-precise-industrial-signal-conditioner/>



Driver installation

To install the ClipX drivers run the ClipX_DIAdem_Driver-Setup.exe file. This installer places the required .dll files to the target directory.

- In the dialog select the path of your DIAdem installation folder.



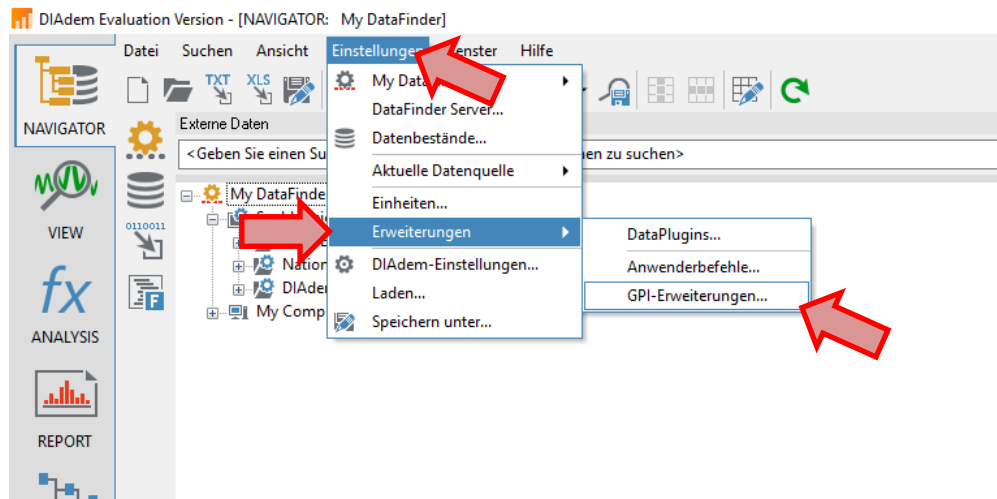
- Follow the program instructions and finish the installation process

DIAdem

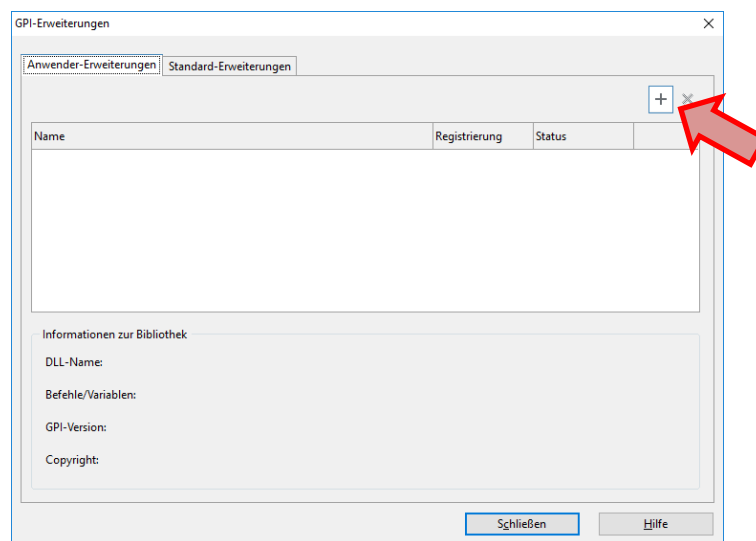
Driver setup in DIAdem

To set up the driver run the DIAdem Application.

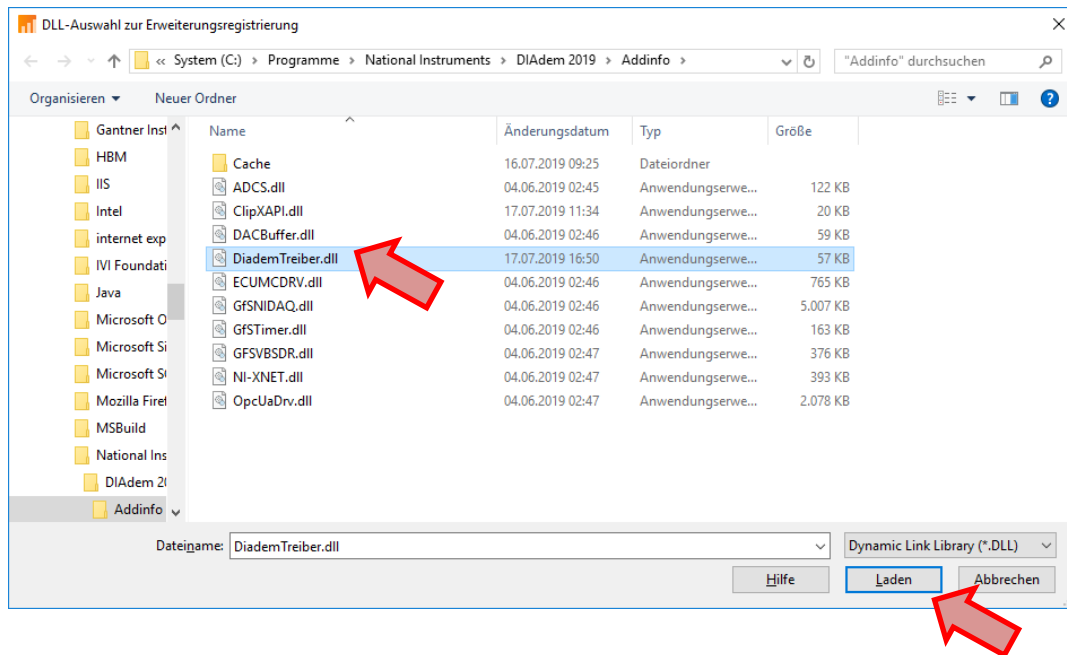
- Select 'Settings'
- Then select 'Extensions' → 'GPI-Extensions'



- Select '+' to add a new driver



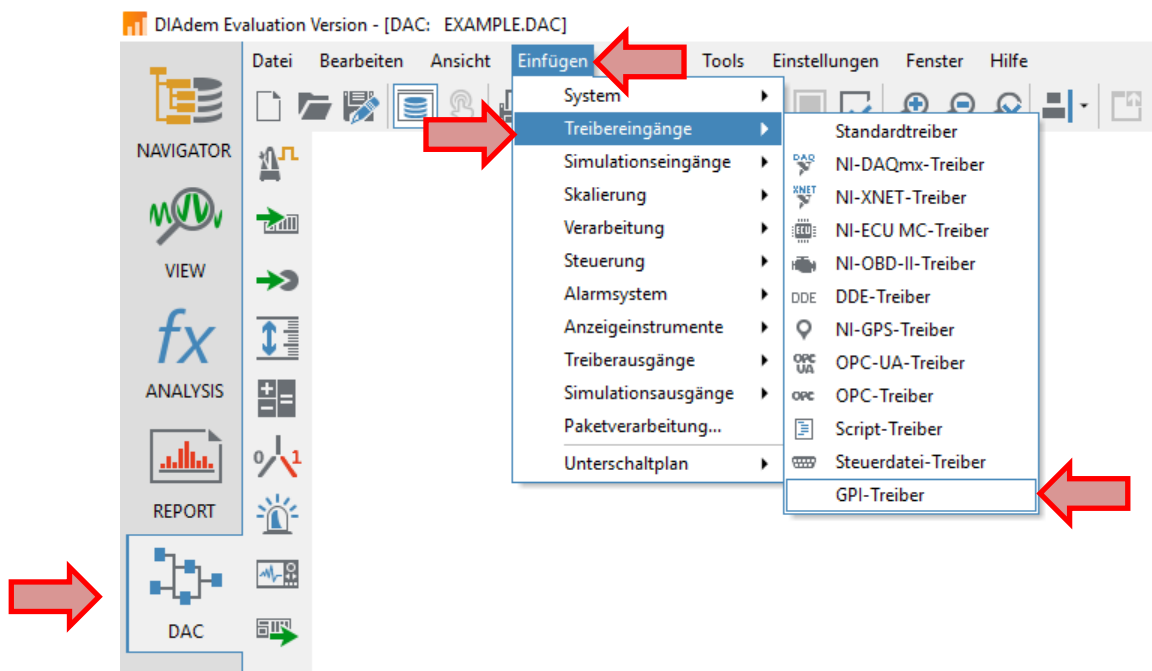
- Select the DiademDriver.dll file and click ,load‘



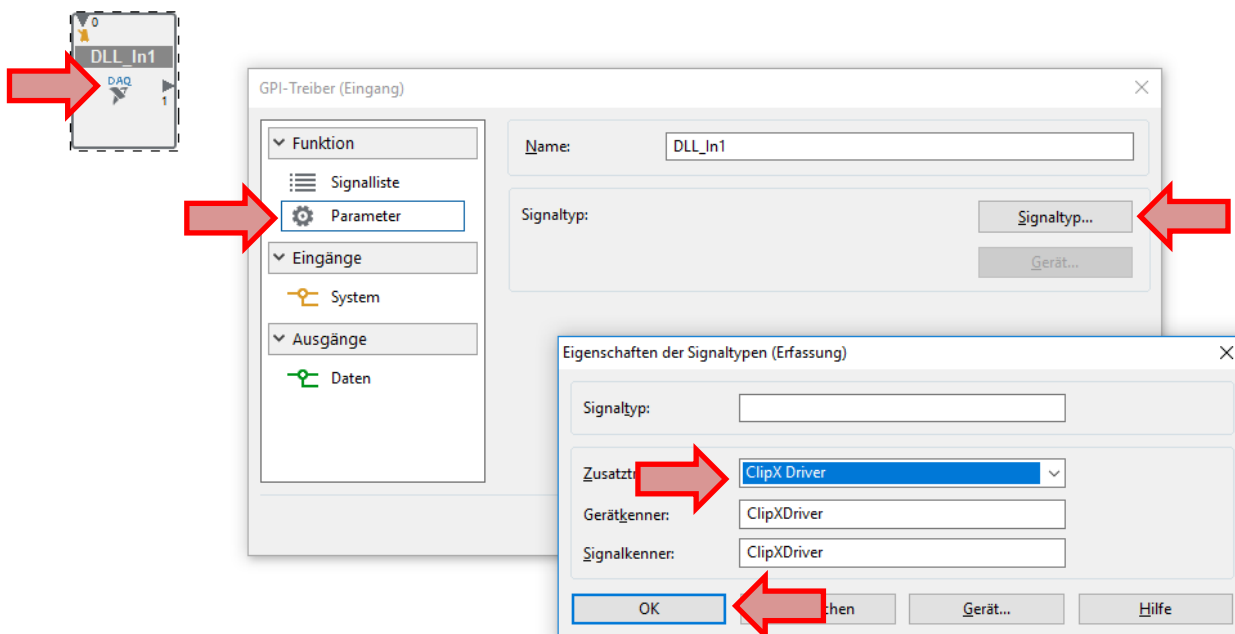
To complete the process click close and confirm the restart proposed by DIAdem.

Create a measurement project

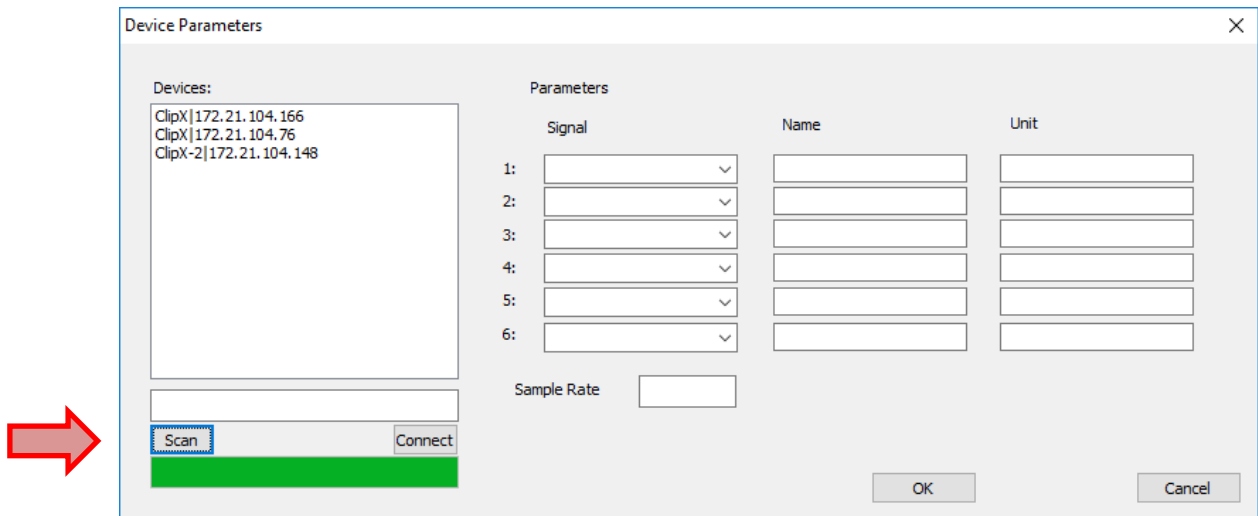
- Select 'DAC' on the left menu bar
- Select 'Insert' → 'Driver input' → 'GPI driver'



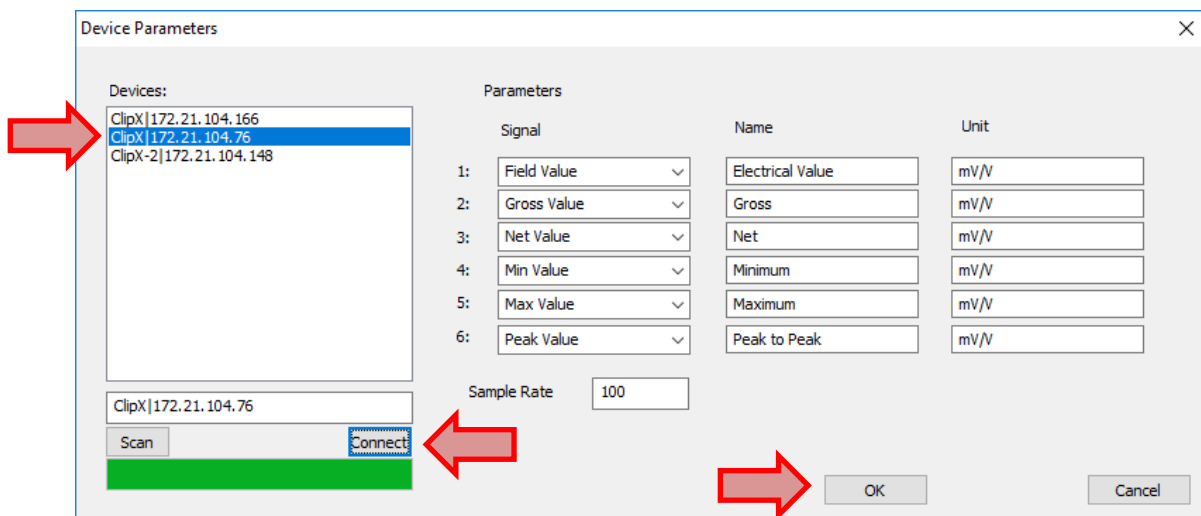
- Double click the DLL_IN1 icon
- Select 'Parameter' and choose the ClipX_Driver in the following dialog



- Again, double click the DLL_IN1 icon and click scan to search for available devices



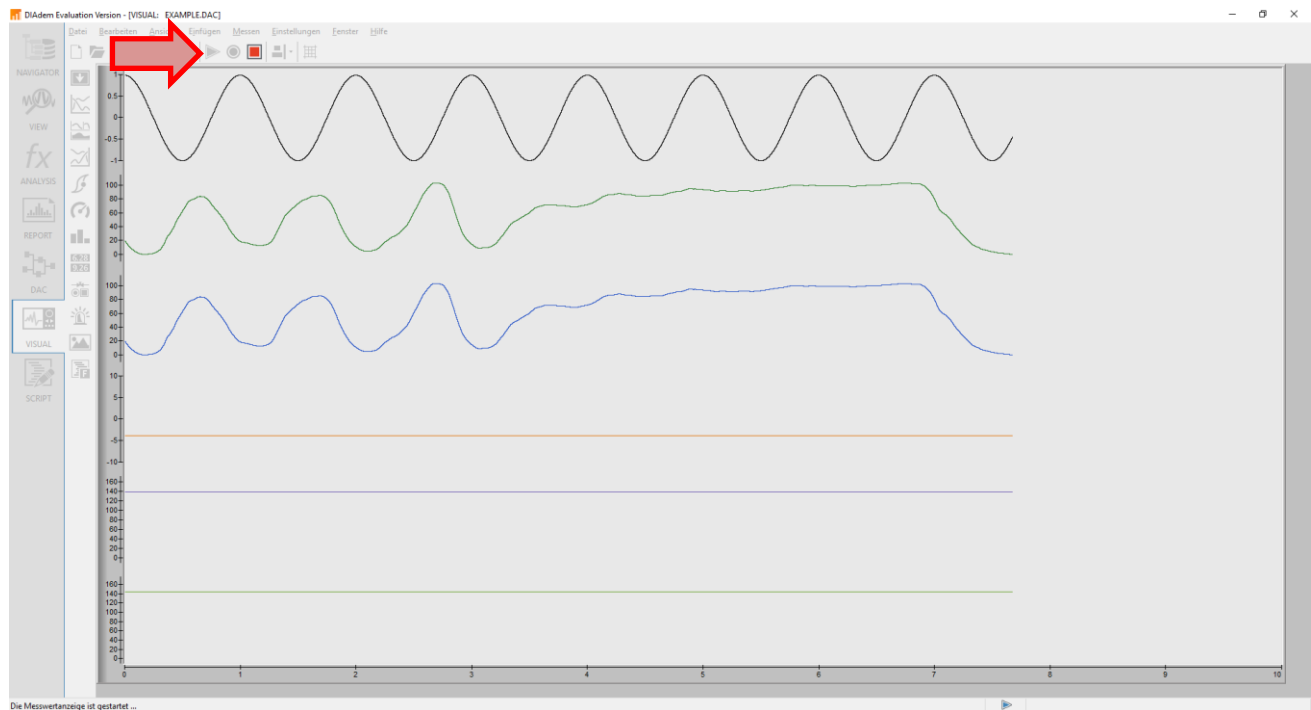
- Select a ClipX device in the list (or enter the IP address manually) and click ,Connect' to connect to the ClipX device
- On the right side the measured channels of the fifo, their names and units and the sample rate can be set
- Click ,OK' to confirm



Note: The maximal sample rate of the fifo storage is limited to 1kHz (1000Hz).

Now a line chart is created.

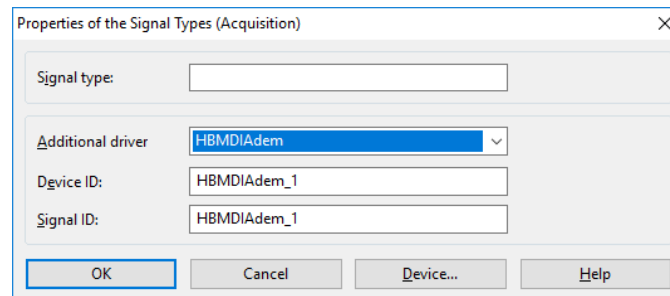
- Click the button shown below and select the line chart
- Connect the DLL_IN1 block with the visualization block
- Click the play button to start the measurement



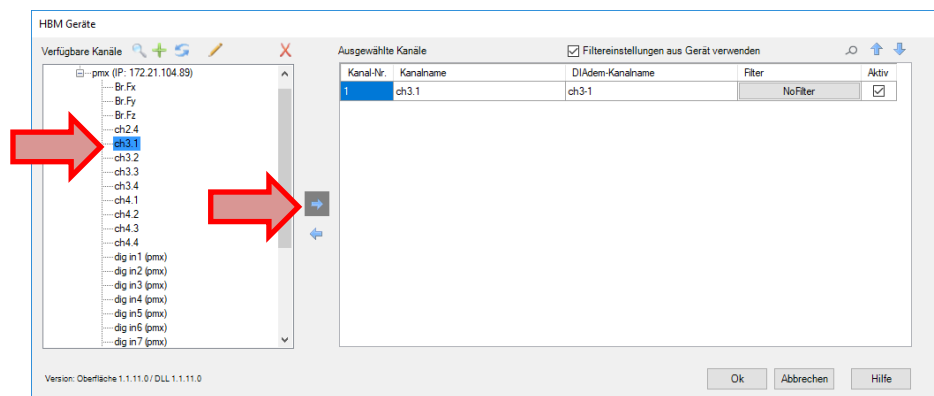
Example: Measurement with ClipX and PMX

In the following it is assumed, that the ClipX is set up like described above (200Hz) and that the PMX drivers are installed.

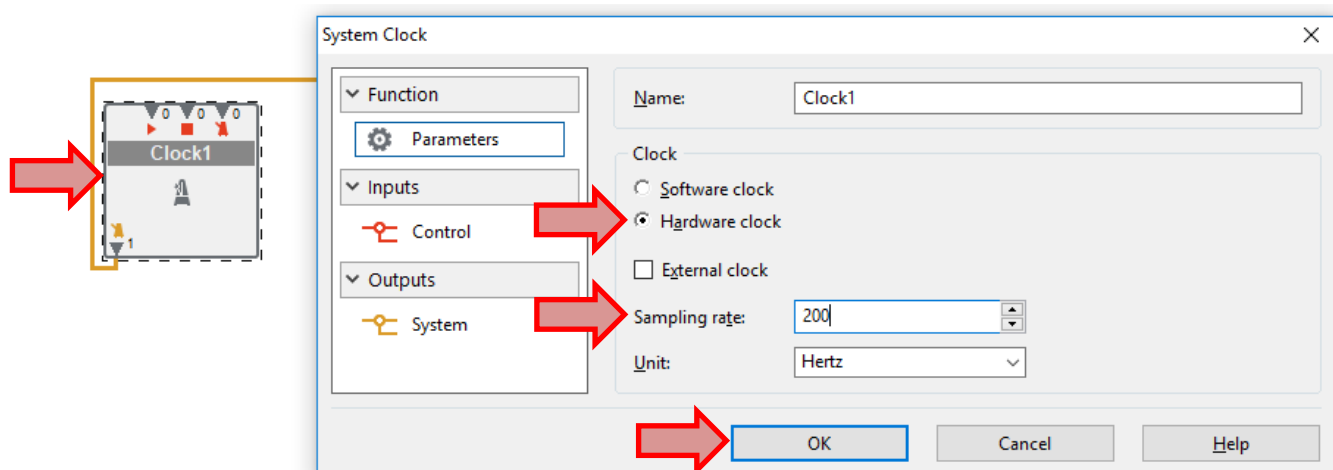
- Add a new GPI input
- Double click the new DLL_IN2 → Parameter → Signal Type → Select 'HBMDIAdem'



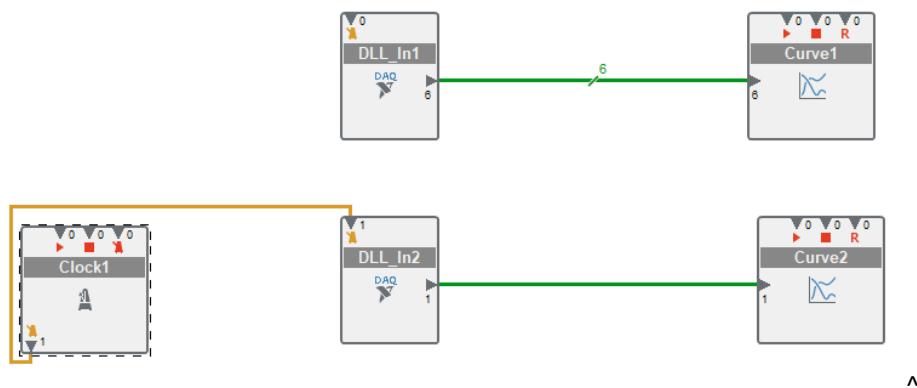
- Double click again on the icon and connect to the PMX in the following dialog
- Add one or more signals for monitoring and confirm with 'OK'



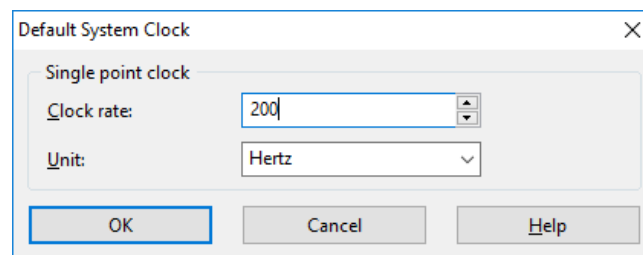
- Add a 'Clock', connect it to DLL_IN2 and set up the following settings



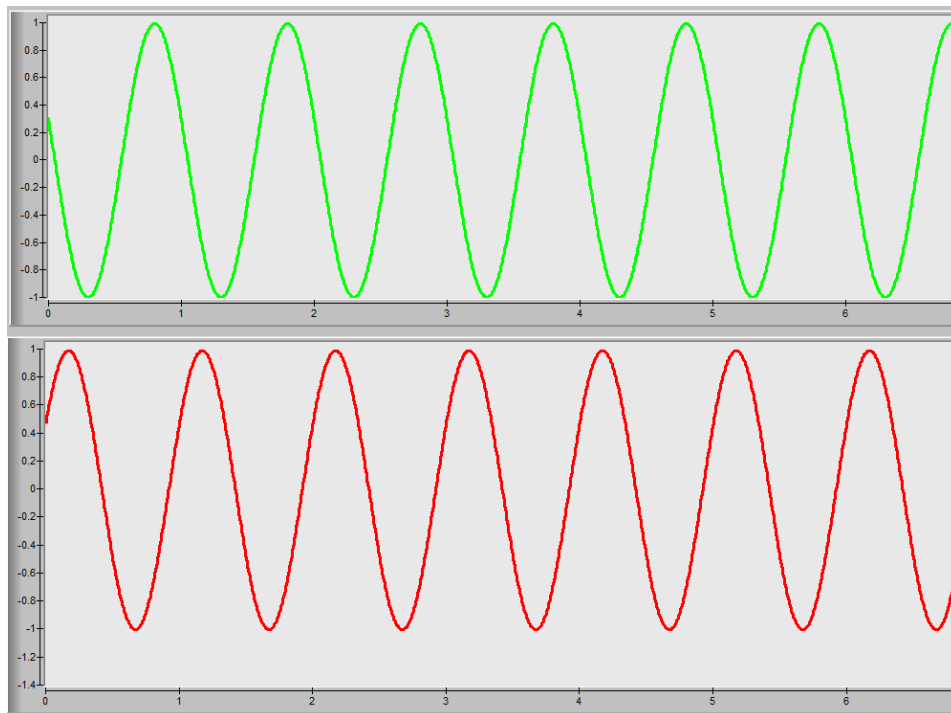
- Add another curve display
- Connect it to PMX
- The block diagram should now look like below



- Set the default system clock rate at 'Settings' → 'Single Point Processing' to 200Hz



- Now the measurement can be started



Disclaimer

These examples are for illustrative purposes only. They cannot be used as the basis for any warranty or liability claims.