

Main Updates

- ▶ Connection of six USB-to-Serial converters at slow-control rack

- ▶ Listed in <https://github.com/uva-spin/Temperature-Pressure-VIs#device-communication-interface>

- ▶ Will watch the stability of Ethernet+USB connections

- ▶ Communication with LakeShore 218 from target computer

- ▶ Succeeded, using test VI & PuTTY

- ▶ Updated <https://confluence.its.virginia.edu/display/twist/Slow+Controls>

- ▶ Continuous measurement & logging (CML) of MKS 946

- ▶ Made two sub VIs for CML
(`add_data.vi` & `record_to_tsv.vi`)

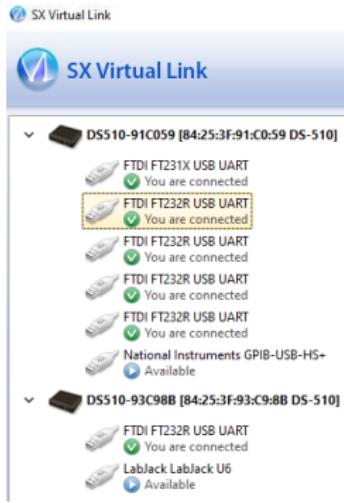
- ▶ Kept running for 20 hours. OK

- ▶ Updated

https://github.com/uva-spin/Temperature-Pressure-VIs/tree/main/MKS_946_VIs

- ▶ Plans

- ▶ Adopt the same CML VIs for other devices??



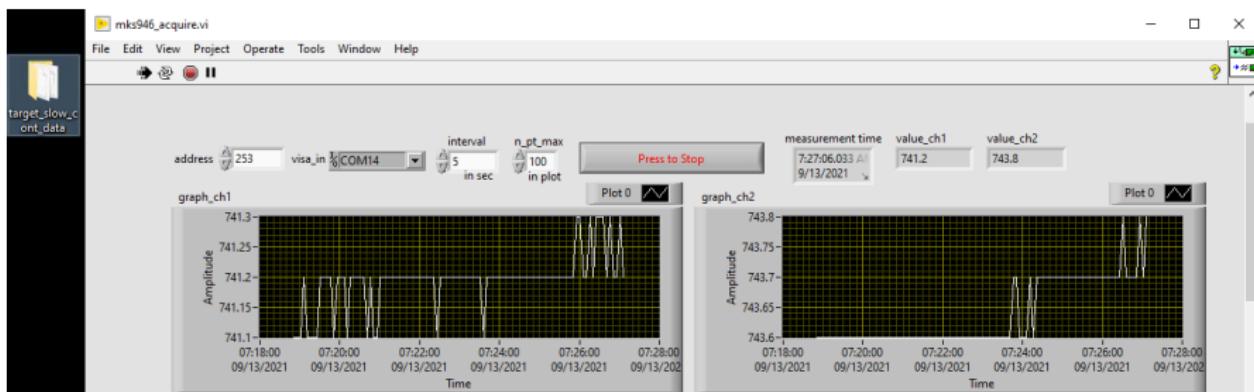
mks946_ch1.csv - Notepad		
File	Edit	Format
TTT:26:31.031 AM	9/13/2021	741.300000
TTT:26:36.032 AM	9/13/2021	741.300000
TTT:26:41.032 AM	9/13/2021	741.200000
TTT:26:46.032 AM	9/13/2021	741.300000
TTT:26:51.031 AM	9/13/2021	741.200000
TTT:26:56.032 AM	9/13/2021	741.200000
TTT:27:01.032 AM	9/13/2021	741.300000
TTT:27:06.033 AM	9/13/2021	741.200000
TTT:27:11.033 AM	9/13/2021	741.300000
TTT:27:16.032 AM	9/13/2021	741.300000
TTT:27:21.032 AM	9/13/2021	741.200000
TTT:27:26.033 AM	9/13/2021	741.300000
TTT:27:31.033 AM	9/13/2021	741.200000

Continuous Measurement & Logging of MKS 946

► MKS 946: Vacuum System Controller

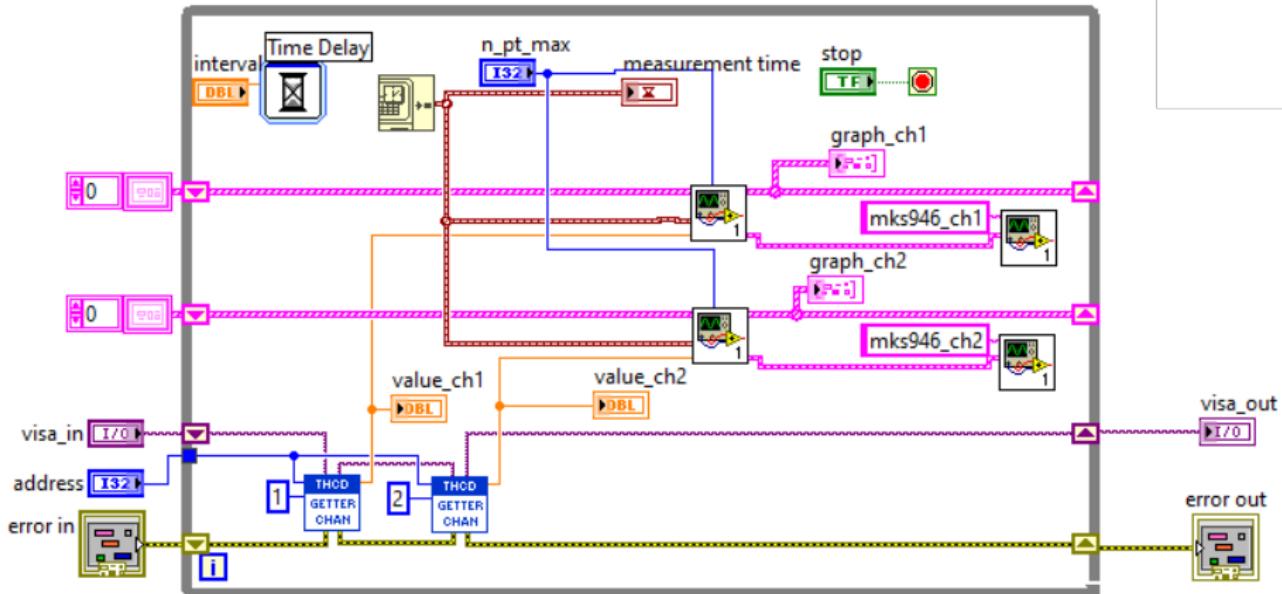
- ▷ Two pressure sensors (MKS 722B) are connected in air
- ▷ https://github.com/uva-spin/Temperature-Pressure-VIs/tree/main/MKS_946_VIs

► Updated interface VI: mks946_acquire.vi



- ▷ Measure the two sensor values every 5 seconds
- ▷ Plot last 100 measurements
- ▷ Record to TSV files under “target_slow_cont_data”

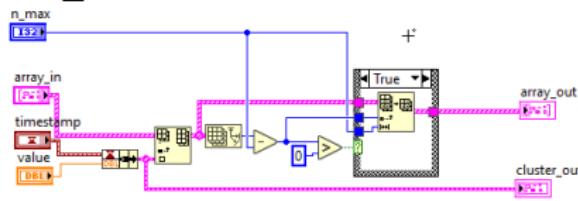
Diagram of mks946_acquire.vi



- ▶ Updated to use two sub VIs

► Sub VIs for CML

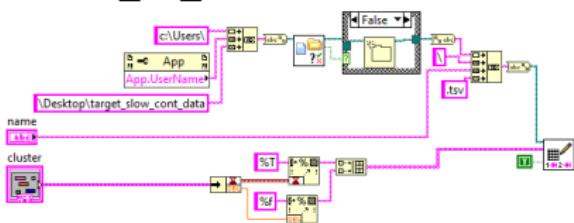
► add data.vi



- ▷ Make a cluster of timestamp and measured value
 - ▷ Add cluster to array
 - ▷ Keep only last n_{max} clusters for plotting
 - ▷ Use the same/similar sub VIs for other devices??

▷ Auto-create
c:\Users\target\Keep with

▶ record to tsv.vi



- ▷ Auto-create a data folder at
c:\Users\[username]\Desktop\
target_slow_cont_data
 - ▷ Keep writing to [name].tsv