Cryo Control Panel (CCP)

► List of devices on Confluence page:

https://confluence.its.virginia.edu/display/twist/Slow+Controls#SlowControls-CryoControlPanel:CCP

  ▷ Conditions of devices & VIs expected for the FNAL review in early April?

► VIs on GitHub repository:

https://github.com/uva-spin/e1039-target-controls/tree/devel_cryo_control_panel/Cryo-Control

► Updates
  ▷ Installed the control box for run+bypass valves &
    implemented basic VIs
  ▷ Connected the Serial+USB cable to MaxiGauge
    $\implies$ Will test standalone VIs (by Zulkaida)
  ▷ Made a PowerShell script to list up Serial-to-USB converters

► Plans
 ▷ Set up all sensors and VIs that are expected for the FNAL review

Run Valve & Bypass Valve

► Control box
  ▷ Installed to slow-control rack last Thursday
  ▷ Motor drivers (AM ST5-S)
    ▷▷ For run valve: Connected to a motor in the cave
    ▷▷ For bypass valve: Not connected (for response test)
  ▷ ADC (MCC USB-202)
    ▷▷ Not connected to potentiometer
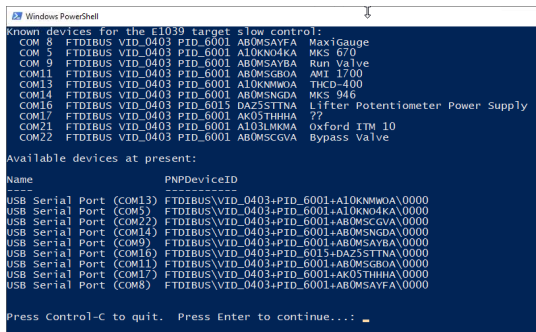 ▷ All are responding to Serial/USB commands

► VIs
  ▷ **Sub panel:** `Cryo-Control/Fridge_Valve/Fridge_Valve_Main.vi`
    ▷▷ Created based on `Cryo-Control/bypass.vi`
    ▷▷ Screenshot in next page
  ▷ Implemented functions
    ▷▷ Initialize the motor parameters
    ▷▷ Enable/disable the motor power
    ▷▷ Set the valve position manually
    ▷▷ Read the ADC value
  ▷ Next steps
    ▷▷ Update the relation between motor steps, motor turns & valve opening
       (The driver shows no error even when we command a turn and no motor is
       connected. Should we always refer to the ADC value?)
    ▷▷ Make use of the ADC value to locate the absolute valve position
       (The original VI seems capable of only the manual calibration)
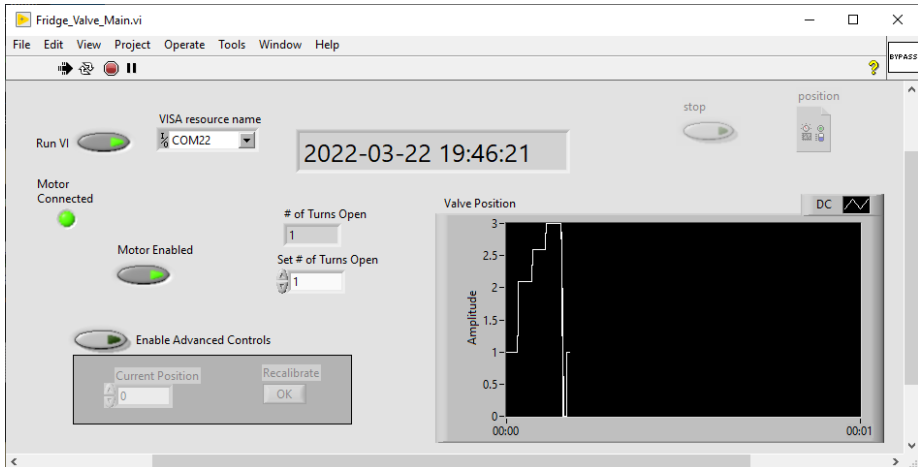
Serial-to-USB Converters

▶ COM ID of another converter has changed

▶ list_usb_serial_ports.ps1:
  Script to list up all connected converters
  ▷ Print out known converters (which are hard-coded)
  ▷ Print out COM IDs & device IDs of connected converters repeatedly


```
Windows PowerShell
Known devices for the E1039 target slow control:
  COM  8  FTDIBUS VID_0403 PID_6001 AB0MSAYFA  MaxiGauge
  COM  5  FTDIBUS VID_0403 PID_6001 A10KNO4KA  MKS 670
  COM  9  FTDIBUS VID_0403 PID_6001 AB0MSAYBA  Run Valve
  COM11  FTDIBUS VID_0403 PID_6001 AB0MSGBOA  AMI 1700
  COM13  FTDIBUS VID_0403 PID_6001 A10KNMWOA  THCD-400
  COM14  FTDIBUS VID_0403 PID_6001 AB0MSNGDA  MKS 946
  COM16  FTDIBUS VID_0403 PID_6015 DAZ5STTNA  Lifter Potentiometer Power Supply
  COM17  FTDIBUS VID_0403 PID_6001 AK05THHHA  ??
  COM21  FTDIBUS VID_0403 PID_6001 A103LMKMA  Oxford ITM 10
  COM22  FTDIBUS VID_0403 PID_6001 AB0MSCGVA  Bypass Valve

Available devices at present:

Name                    PNPDeviceID
----                    -----------
USB Serial Port (COM13) FTDIBUS\VID_0403+PID_6001+A10KNMWOA\0000
USB Serial Port (COM5)  FTDIBUS\VID_0403+PID_6001+A10KNO4KA\0000
USB Serial Port (COM22) FTDIBUS\VID_0403+PID_6001+AB0MSCGVA\0000
USB Serial Port (COM14) FTDIBUS\VID_0403+PID_6001+AB0MSNGDA\0000
USB Serial Port (COM9)  FTDIBUS\VID_0403+PID_6001+AB0MSAYBA\0000
USB Serial Port (COM16) FTDIBUS\VID_0403+PID_6015+DAZ5STTNA\0000
USB Serial Port (COM11) FTDIBUS\VID_0403+PID_6001+AB0MSGBOA\0000
USB Serial Port (COM17) FTDIBUS\VID_0403+PID_6001+AK05THHHA\0000
USB Serial Port (COM8)  FTDIBUS\VID_0403+PID_6001+AB0MSAYFA\0000


Press Control-C to quit.  Press Enter to continue...:
```

▶ Will keep eyes on the relation between COM IDs & device IDs