

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

- ▷ One sub-folder per device

## ▶ Updates

- ▷ Repaired and tested MKS 670 for He3
- ▷ Implemented the 2nd-channel control of THCD 400
- ▷ Included MaxiGauge in CCP
- ▷ Rearranged the Serial cables+converters at the slow control rack

## ▶ Plans

- ▷ Install two of MKS 670
- ▷ Set up all sensors and VIs that are expected for the FNAL review

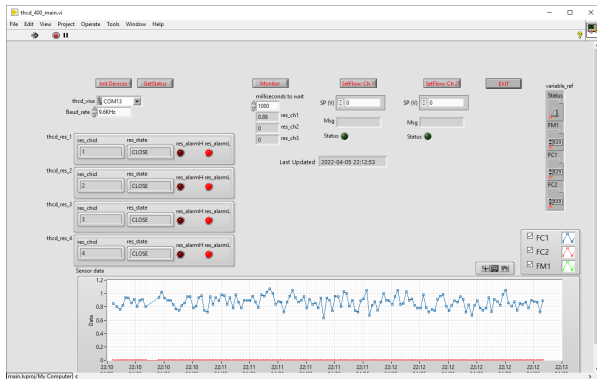
# THCD 400: Flow Controller

## ► Readout channels

- ▷ #1: HFC for Magnet
- ▷ #2: HFC for Separator
- ▷ #3: HFM for Fridge
- ▷ All connected by Ishara and Ernesto

## ► Sub Panel in CCP: Cryo-Control/THCD\_400/

- ▷ The set points of two HFCs are controllable. To be tested and calibrated once the real gas flow gets available



# MaxiGauge: Pressure Monitor

- ▶ Readout channels (at present)
  - ▷ #1-4: TPR 280 in roots pump area
  - ▷ #5: TPR 280 in cave
  - ▷ #1-4 are in place. #5 needs a longer cable. #6 for “PVAC”?
- ▶ Original (standalone) VIs: Test-VIs/MaxiGaugeTesting/
- ▶ Integrated VIs: Cryo-Control/MaxiGauge/
  - ▷ Will add charts at least

The screenshot shows the 'MaxiGauge\_Main\_Panel.vi' interface. It features a menu bar (File, Edit, View, Project, Operate, Tools, Window, Help) and a toolbar with a play button and a stop button. The main area is divided into two primary sections: 'Pressure Value (Torr)' and 'Gauge On/Off/Status'.

**Pressure Value (Torr) Section:**

- Measurement Rate (ms): 0
- Maxi\_vise: COMB
- Get Pressure sensor type: [Green Arrow]
- Sensor Type: (Channel 1, 2, 3, 4, 5, 6)
- Channel 1: 6.584E+2
- Channel 2: 1.000E+3
- Channel 3: 1.000E+3
- Channel 4: 1.000E+3
- Channel 5: 2.000E+2
- Channel 6: 2.000E+2
- Last Updated: 2022-04-05 22:13:09

**Gauge On/Off/Status Section:**

- Gauge On/Off/Status: [Green Arrow]
- Gauge Status: (Channel 1, 2, 3, 4, 5, 6): NO CHANGE
- Gauge status: 1 = OFF, 2 = ON

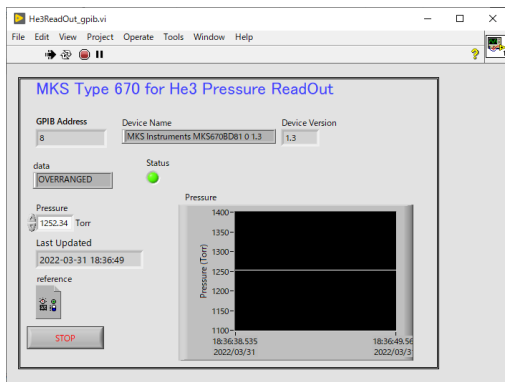
**Right Panel:**

- input cluster: status
- MG1
- MG2
- MG3
- MG4
- MG5

The bottom status bar shows 'main.hvproj\My Computer'.

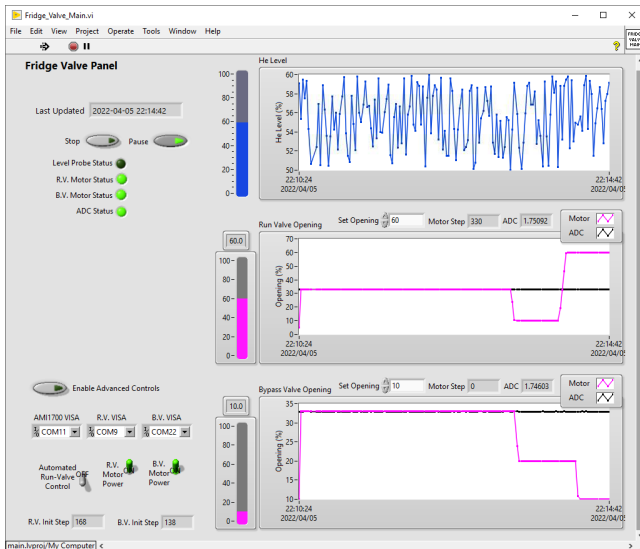
# MKS 670 for He3

- ▶ Repair of MKS 670
  - ▷ One power MOSFET (IRF510PBF) was found burnt out and thus replaced
  - ▷ Tested fine with MKS 690 (red brick Baratron)
- ▶ VI in CCP: `Cryo-Control/subvi_main/He3ReadOut_gpib.vi`
  - ▷ Tested fine on my home computer
  - ▷ Will be developed further once we install hardware



# AMI1700 & Fridge Valves

## ► Sub Panel in CCP: Cryo-Control/Fridge\_Valve/



# CCP Main Panel

