



Detector Support Group

We choose to do these things "not because they are easy, but because they are hard".

Weekly Report, 2024-04-10

Hall A – ECAL

Marc McMullen and Mindy Leffel

- Started design changes of power supply interface chassis with depth reduction to nine inches
- Ordered cRIO mounting components for the expansion chassis
- Working on wiring diagram spreadsheet for power supply interface chassis

Hall A – LAPPD

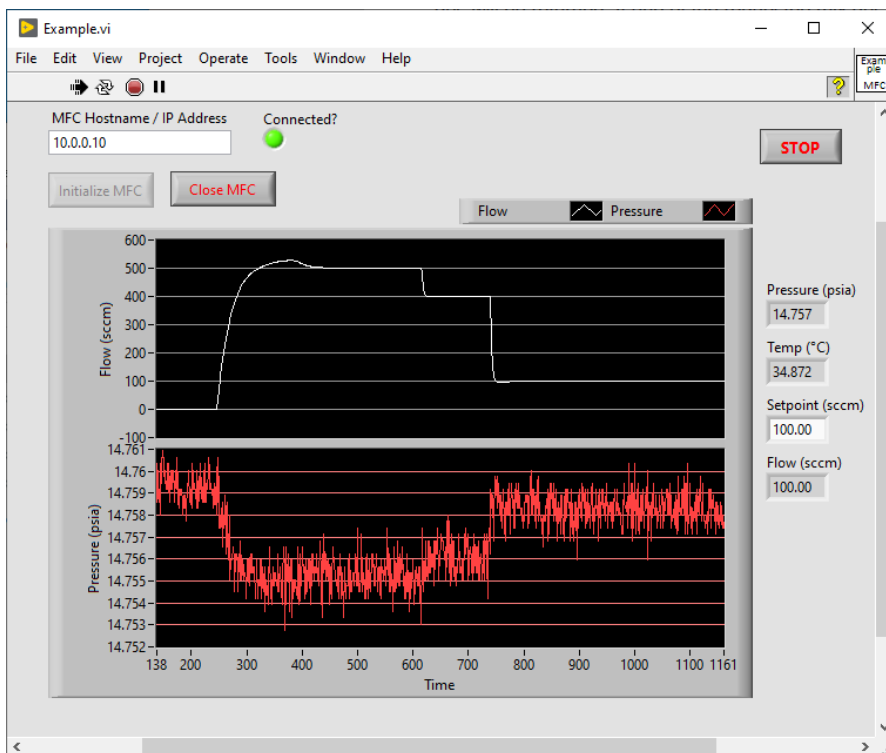
Pablo Campero

- Tested movement of the gantry installed on its support structure, using local controller knobs and using remote Zaber software
- Configured knob and displacement limits of the gantry using Zaber software

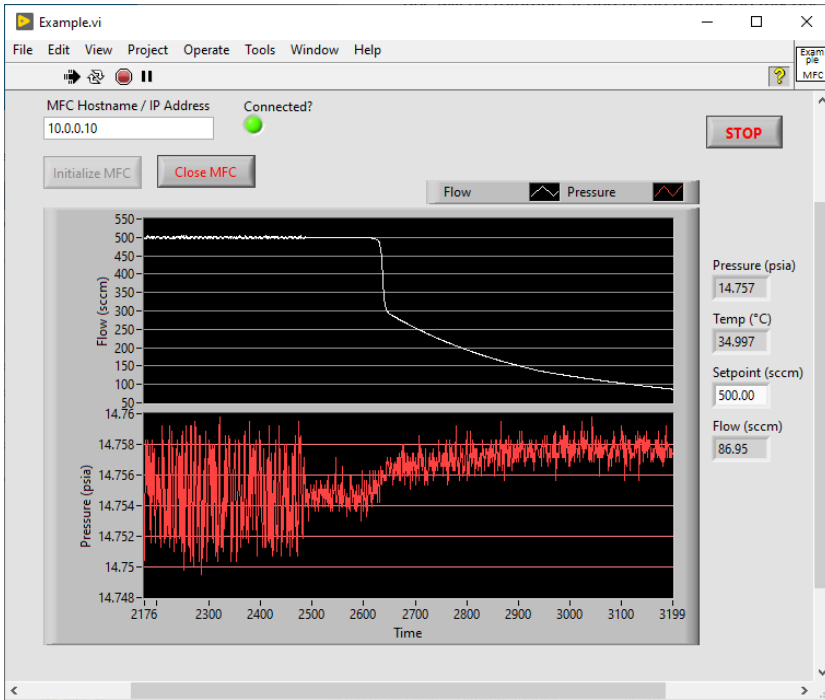
Hall B – ALERT

Brian Eng and Marc McMullen

- Wrote LabVIEW drivers to test Alicat mass flow controller functionality via Modbus TCP/IP
 - ★ No valve open command (only hold current and close)
 - ★ Cannot remotely read valve position (only local display, which by default is not displayed)
 - ★ Flow temperature appears to be more correlated to valve position rather than gas temperature

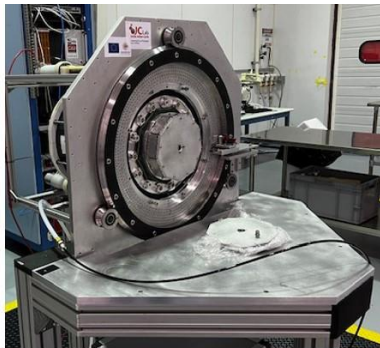


Pump turned on, $t = \sim 250$, setpoint changed to 400, then 100

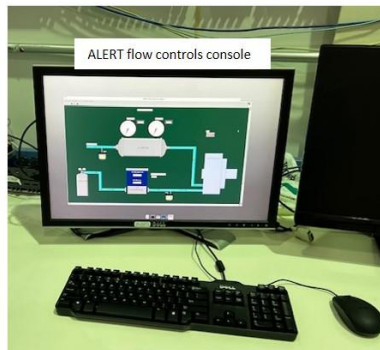


Setpoint changed to 500, pump turned off, $t = \sim 2500$

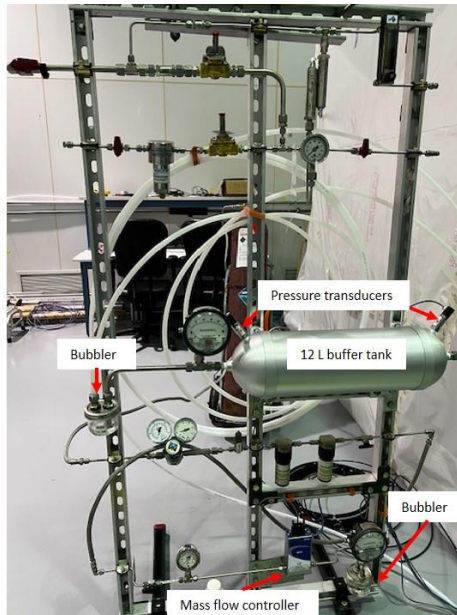
- Installed cRIO in the Physics cleanroom; connected mass flow controllers and pressure transducers



ALERT drift chamber front plate view



LabVIEW-based flow controls



ALERT gas panel featuring the 12 L buffer tank with pressure transducers, mass flow controller, and pressure control bubblers

- Added local datalogging software to the control software



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Hall C – NPS

Aaron Brown and Mary Ann Antonioli

- Making plots of front and back crystal sensor temperatures for various conditions
 - ★ Increasing ambient temperature
 - ★ Decreasing ambient temperature
 - ★ Steady ambient temperature
 - ★ Front and back crystal sensor temperatures with beam current
 - ★ Front minus back temperatures (ΔT) histograms
 - ★ Average front and back crystal temperatures
- Working on version 3 of control and monitoring LabVIEW program
 - ★ Debugging trip delay calculation subVI
 - ★ Made subVI to add dew points to array of sensor values and then to replace those values with successive readings; added to Main VI
- Began Phoebus screen revisions for version 3

Hall D – FCAL2

Mindy Leffel and George Jacobs

- Tested 80 PMT bases; 763 good bases tested
 - ★ Six had shorted low voltage caps (output amplitude lower than expected), one had bad solder, and two had no signal
- Completed fabrication of all PMT sockets (1650 units)

EIC – DIRC

Tyler Lemon

- Assisted with preparations of barbox shipping crates at JLab
- Assisted with loading of barboxes at SLAC

DSG R&D

Peter Bonneau and Mindy Leffel

- Developing Phoebus Test Station that acquires live data instead of simulated data
 - ★ Using latest version of Phoebus (4.7.3) and software support packages
- Fabricating cRIO chassis
 - ★ Drilled holes for power connector and DIN rails
 - ★ Installed power connector, DIN rails, and cRIO module



Inside view of partially fabricated cRIO chassis