

Detector Support Group

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

Weekly Report, 2021-07-28

Summary

Hall A - SoLID

Mary Ann Antonioli, Pablo Campero, Brian Eng, Mindy Leffel, Marc McMullen

- Generated electrical drawing: PLC Relay Module, Remote B, Slot 2 Wiring Diagram
- Updated Cable List spreadsheet; added basic specifications required for cables to connect
 - ★ Motor Drive signals from PLC-TS (Terminal Strip) to PLC-TB (Terminal Block) for heat exchanger valves
 - **★** Temperature sensor signals from 5 VDC power supply to Dataforth backplane

Hall B - Magnets

Pablo Campero, Brian Eng

• Debugged Torus PLC, Solenoid Cryocon #1, and Distribution Box PLC communication faults due to power outage: https://logbooks.jlab.org/entry/3888214

Hall B - MVT Gas

Brian Eng

• Debugged communication issues due to power outage: https://logbooks.jlab.org/entry/3888754

Hall B - RICH-II

Mary Ann Antonioli, Peter Bonneau, Pablo Campero, Brian Eng, George Jacobs, Tyler Lemon, Marc McMullen

- Developed interface between hardware interlock system's sbRIO card and the expansion chassis
 - ★ Currently, data is shown as raw voltage or current; will be converted to flow (L/min) or pressure (psi)
- Developing Hardware Interlock LabVIEW User Interface
 - **★** Added new tab to monitor and control SHT-35 sensors
 - ★ Added indicators and control buttons for all 48 sensors; configured buttons to reset and clear status of 48 sensors at once
- Completed initial routing of the backplane PCB, started on design changes
 - **★** Redesigned RJ-45 LED circuit
 - **★** The LEDs on the RJ-45 connectors will now be used to monitor the sensor communication activity
- Developing air cooling P&I diagram and components list

Hall C – NPS

Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, George Jacobs, Mindy Leffel, Tyler Lemon, Marc McMullen

- Generated MySQL database for CAEN HV module testing analysis plots
- Researching methods of embedding a MySQL database within webpage
- Revised Hardware Interlock System program LabVIEW front panel

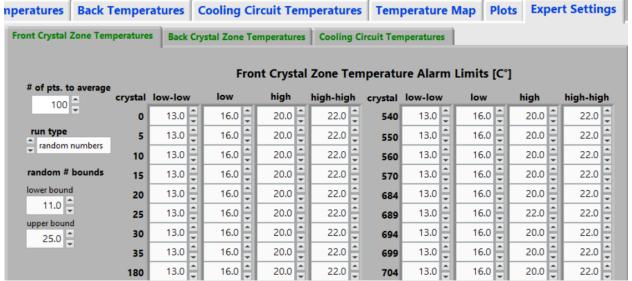


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- **★** Added temperature limit to both crystal zones (front and back) and the crystal zone cooling circuit
 - Each crystal zone has: high-high, high, low, and low-low temperature limits to control LED indicator colors



Screenshot of Expert Settings tab's Front Crystal Zone Temperature Alarm Limits tab from front panel for Hardware Interlock System LabVIEW program

- Completed long-term load testing of HV supply cables
- Repaired 35 HV supply cable wires; labeled 20 of 40 cables

EIC

Brian Eng

 Working on a more detailed schedule for Silicon, Time Projection Chamber (TPC), and Micro-Pattern Gas Detector (MPGD)

SAFETY – POAM 10 Implementation Team

Marc McMullen

• Discussed roll-out of application to the lab; Electrical Safety Group is planning a multilevel outreach to inform workers