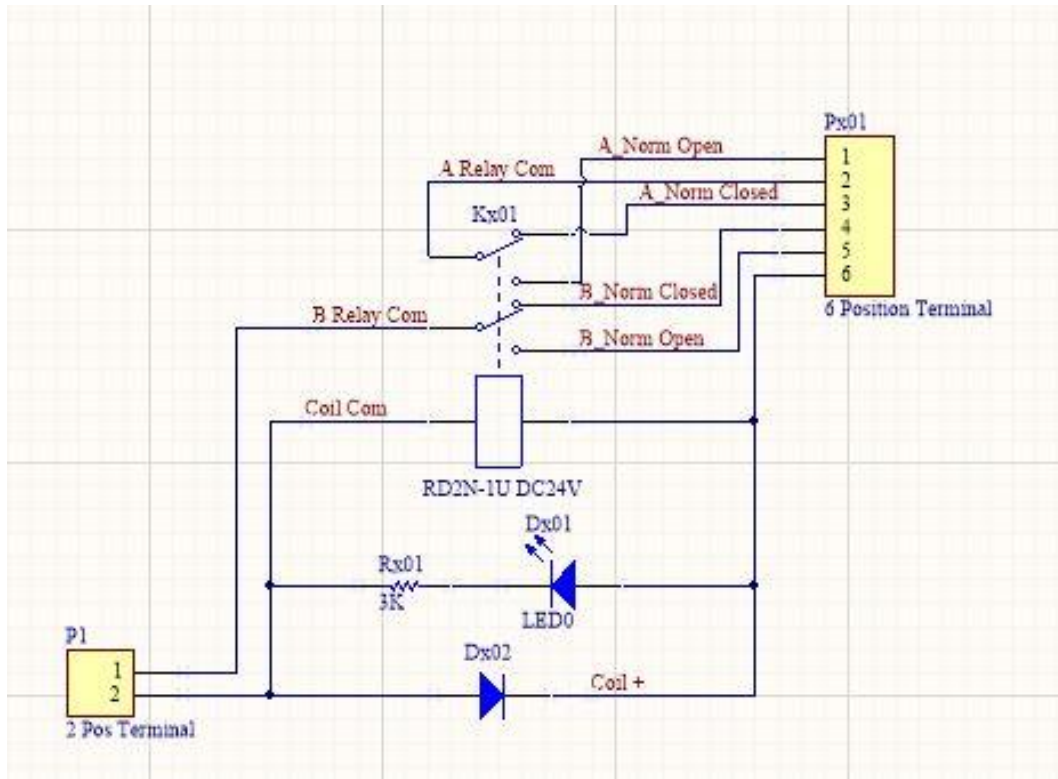


Summary

Hall A – SoLID Magnet Controls

- Made additions to the Instrumentation Interconnect System (drawing #0050)
- Completed Current Source Module’s wiring diagram (drawing #0500)
- Researched components for the Motor Controller board
 - ★ Reverse engineered the relay circuit to make a schematic



A single channel of the Hall A Motor Controller relay circuit

Hall A –GEM Gas System

- For the flow sensor PCB, contacted Honeywell support and got a CAD file of the sensor, which can be used to make the Altium design part

Hall A – Magnets

- Regarding the issue of the PLC licenses not being released on *phycad58*, created support ticket with Rockwell Automation
- Todd re-hosted the three licenses that were borrowed
 - ★ Also had him restrict the Hall B PLC licenses to certain users

Hall B – BoNuS Gas

- Added LabVIEW code to GitHub repository:
<https://github.com/JeffersonLab/clas12-crio-bonus>

Hall B – HDice

- Development of “Frequency Swept NMR” (“fsNMR”) program
 - ★ Investigated cryogenic sensor measurement and data-logging capabilities within the Fast Resonance Scan (FRS) base program
 - FRS reads target cryo temperatures and helium level from an external program
 - Measurements are passed to FRS using global variables
 - Measurement data is asynchronously recorded and stored separately from the FRS data
 - In stage 3 of the project, the code performing the cryo measurements will be incorporated into the fsNMR program and stored with the frequency-swept NMR measurements
- Developed, tested, and debugged addition of multiple cycles and averaging to FRS program
 - ★ Program tested in Rack #1 with instrumentation
- Programmed additional logging of individual cycle data, averaged data, and fsNMR settings to the text files
- Generated code to include lock-in amplifier X and Y readout in the fsNMR program
- Investigating reading lock-in amplifier data from its buffer rather than using its sampled display data

Hall B – RICH

- Performed test to see if dry boxes, which store 43 Aerogel tiles, restart automatically after power outage



Dry boxes located in gowning room

- ★ To this end, cut power to the dry boxes and restarted them
- ★ Dry boxes automatically came up to preset humidity value of 0.5% RH
- ★ UPS will provide 66 minutes of power for one dry box, for all three it displayed that it would provide power for 22 minutes



UPS indicating 22 minutes of available power

- Added EPICS monitoring for the Aerogel dry boxes
 - ★ Two methods to view the screens: Hall B EPICS (clascss) or WEDM
 - ★ Posted generated clascss screen to the clascss main menu
 - To get to the new clascss screen, there is an option button added to the Hardware Interlocks menu on the RICH Overview screen
 - ★ The WEDM version of the screen is hosted on epicsweb (administered by Accelerator) and is accessible through any web browser at:
 - <https://epicsweb.jlab.org/wedm/screen?edl=%2fcs%2fopshome%2fedm%2fdsg%2fRICH-drybox.edl>
- Some notes about the humidity readings
 - ★ Humidity sensors have an accuracy of +/- 3.5% RH. They are the same sensors that are implemented in RICH
 - ★ Dry box 2 is not well sealed, it's humidity is slightly higher at times (6% RH)
 - ★ Dry boxes are located in the climate controlled gowning room (72°F, 40% RH)

Hall C – CAEN HV Hardware Testing

- Ramp and Stability (with load) tests completed on *hvcaentest3*

Hall C – NPS

- Started designing CSS-BOY controls screens for Hall C NPS detector

Hall C – CS-Studio Screens

- Completed HMS Dipole PSU Internal, Q1 PSU Internal, Q2 PSU Internal, and Q3 PSU Internal screens
- Started working on HMS Overview screen and its corresponding LabVIEW test program
- Started working on SHMS Dipole Interlock Setup screen and its corresponding LabVIEW test program

Hall D – PLC

- Finalized channel count for remote IO system for DIRC and ComCal signals
 - ★ Need seven Point IO analog voltage input modules to monitor all signals

DSG R&D – EPICS Data Logger

- Investigated if Grafana could be used for data analysis, not just graphing
 - ★ Determined that it could not.
- Investigating another graphing and data analysis method for the MySQL database

DSG R&D – MSELV Chassis

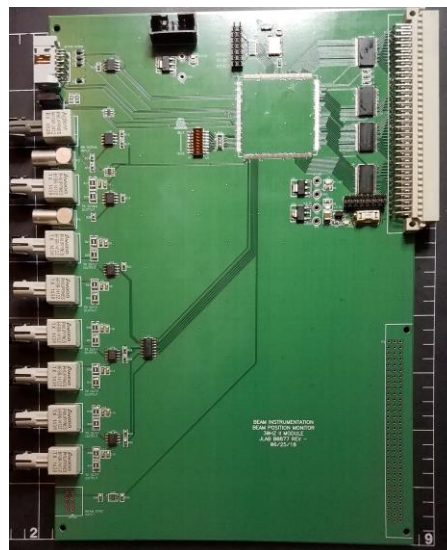
- Reviewing RIO Mezzanine Card (RMC)

DSG R&D – RICH

- Hardware development of RMC interface
 - ★ Investigating alternative chips for isolating the sb-RIO FPGA RMC DIO bus from the ~100ft. cable run to the detector

Engineering Division – Beam Position Monitor

- Populating PCBs
 - ★ Soldered over 400 components, including capacitors, resistors, optical receivers and transmitters, diodes, switches, headers, and 96-pin DIN connectors



Populated Beam Position Monitor board