

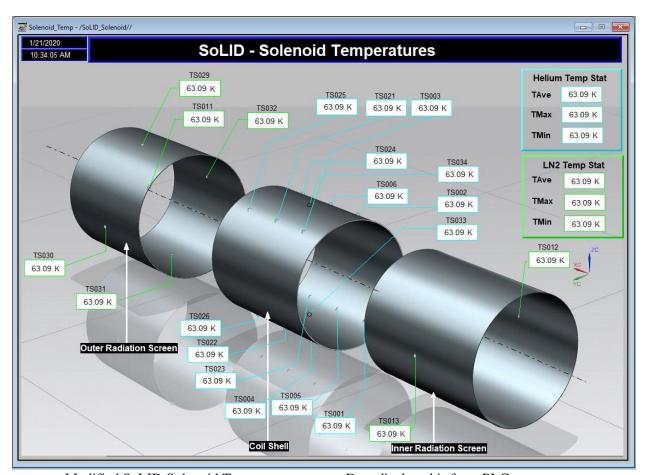
Detector Support Group

Weekly Report, 2020-01-22

Summary

Hall A – SoLID Magnet Controls

- Developing isometric view of SoLID magnet "Neck" section in NX12 to show temperature sensors' locations.
- Modified HMI screen to monitor SoLID Solenoid temperature in the radiation screens and coil shell
 - * Added minimum, maximum and average temperatures for the nitrogen circuit



Modified SoLID Solenoid Temperature screen. Data displayed is from PLC test program

Hall A BigBite

- Removed labels from and repaired 140 of ~200 signal cables for shower calorimeter.
- Reconfigured wire scheme for terminating 34-contact coax-to-twisted pair ribbon cables.



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Hall B – RICH

- Added controls to dry-box monitor program to enable/disable emails for each sensor.
- Procured improved alignment laser setup for reflectivity test station.

Hall C HMI-to-CSS Conversion

- Completed HMS Status screen
- Developing quadrupole power supply setup screen.
- Developed EPICS Server and Client using LabVIEW to test functionality of the converted screens.

Hall C - CAEN HV Hardware Testing

- Tested HV Load Chassis from 100 V to 1725 V in stages.
- Continued testing of crates and cards.
- Developed Python code to plot data logged by GECO 2020
- Developed and debugged JavaScript program to control EPICS tests that automatically ramps channels up and down several times



CAEN mainframes *hvcaentest2* and *hvcaentest3* in EEL 121b. Each are fully populated with sixteen A7030TN HV cards.

Hall D – Solenoid PXI

- Checked PXI time synchronization
 - * Has 34 second offset due to UTC leap seconds not being correctly handled by PXI/PLC
 - * Also found that the PLC was ~8 seconds slower than JLAB time.
 - **★** Time clocks will be resynchronized during next shutdown.

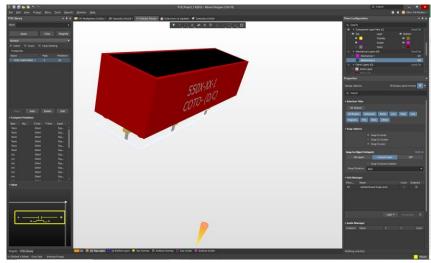


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DSG R&D – HV Multiplexer

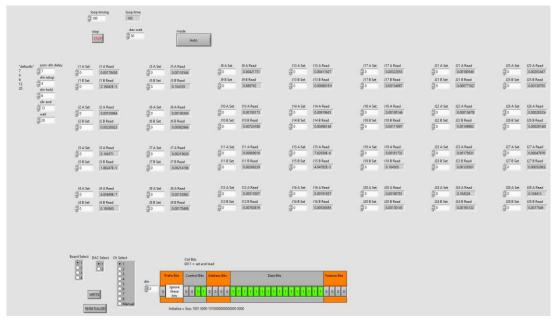
- Completed bread board test for multiplexer circuit
- Started schematic and creation of printed circuit board parts



Parts creation for a COTO 5501-12-1 HV relay in Altium.

DSG R&D – MSELV Chassis for Hall B Magnets

- Debugging Cernox excitation
 - * Verified sbRIO reads Cernoxes' ADC channels by injecting voltage into chassis with Krohn-Hite.
- Developed debugging program for MSELV Chassis.
 - * Program has ability to set and read back each sensor channel, to manually set and trigger DAC commands, and to change DAC timing.



Front panel of MSELV Chassis debug program.