

Summary

Hall A – Bigbite – ECAL

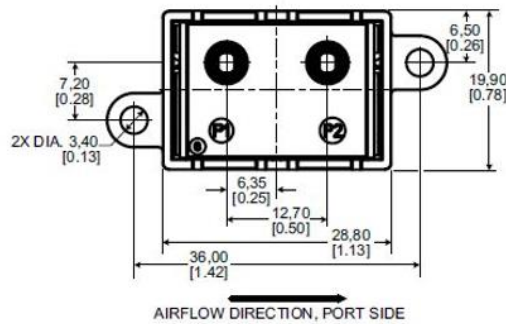
- Assembled nine supermodules (in all, 62).

Hall A – Gas System

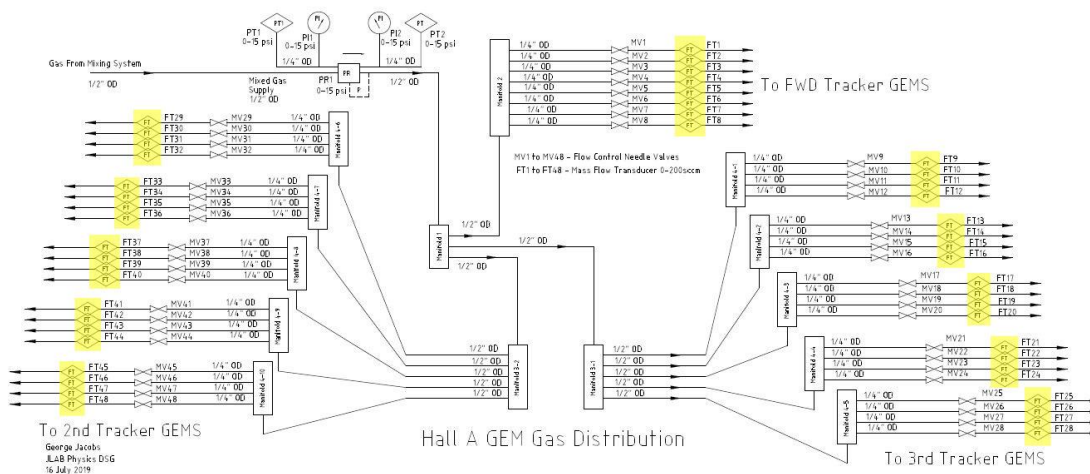
- Procured two Honeywell Zephyr HAF Series mass flow meters to test for potential use in GEM detector’s 48-channel distribution flow monitoring.
 - Sensor is low cost (~\$90 each), small (~1.5” L x ~0.75” W), and high-accuracy that reads ±200-sccm flow and communicates via I²C protocol.

Flow Range (sccm)	Accuracy Error (% FS)
-200 to -11.1	±9
-11.1 to -0	±0.25
0	±0.01
0 to 40	±0.25
40 to 200	±2.5

Accuracy errors for flow ranges for Honeywell Zephyr HAF series mass flow meter.



Schematic of Honeywell Zephyr HAF series mass flow meter.



P&I Diagram for Hall A GEM Gas Distribution. Forty-eight flow meters, represented by diamonds and highlighted in yellow in diagram, are needed to remotely monitor flow at different GEM detectors.



Detector Support Group

Weekly Report, 2019-07-17

Hall B – Magnets

- Found that the EPICS I/O Server on model 9035 and 9045 cRIOs cannot not use PV arrays larger than 2032 elements. Support ticket opened with NI.
 - ★ Larger PV arrays needed to test changes to FastDAQ data transmission rates to EPICS.

Hall C – EPICS

- Developed new startup script for HV CSS screens to open screens from a common directory in a temporary workspace, creating consistent environments for multiple users.
- Created workspace and startup script for CSS screens based on Hall C Magnet HMI screens.
 - ★ Screens accessible from cdaq16 using executable *go_magnets-css*.

Hall C – CAEN HV Test Station

- Tested three A1535 modules; all failed.
 - ★ Module #0556 – Ch. 22 will not ramp up
 - ★ Modules #775 and #776 have intermittent ramping failures.
- Developed novice, expert, voltage monitor, and current monitor CSS-BOY screens for 16 CAEN-7030TN high voltage boards and 8 CAEN-A1535 high voltage boards.
 - ★ Allows testing of multiple boards simultaneously via EPICS.

Hall D – Magnets

- Calibrated ADC cards in FastDAQ PXI.
- Upgraded PXIe-8135 controller to LabVIEW 2019.
- Upgraded BIOS and installed Real-Time Linux base image on PXIe-8840 controller.

Hall D – WEDM

- Developed WEDM screens for Solenoid coils' temperatures.
- Links added to *epicsweb* main menu for all Hall D WEDM screens.

Accelerator Division

- Set wire bonding parameters for superconducting Nb₃Sn strip resonator sample.

Engineering Division

- Soldered 296 capacitors on BPM PCBs.

DSG R&D – cRIO Test Stand

- Developed automatic voltage tests for NI-9219 module in ± 15 V and ± 4 V ranges.