

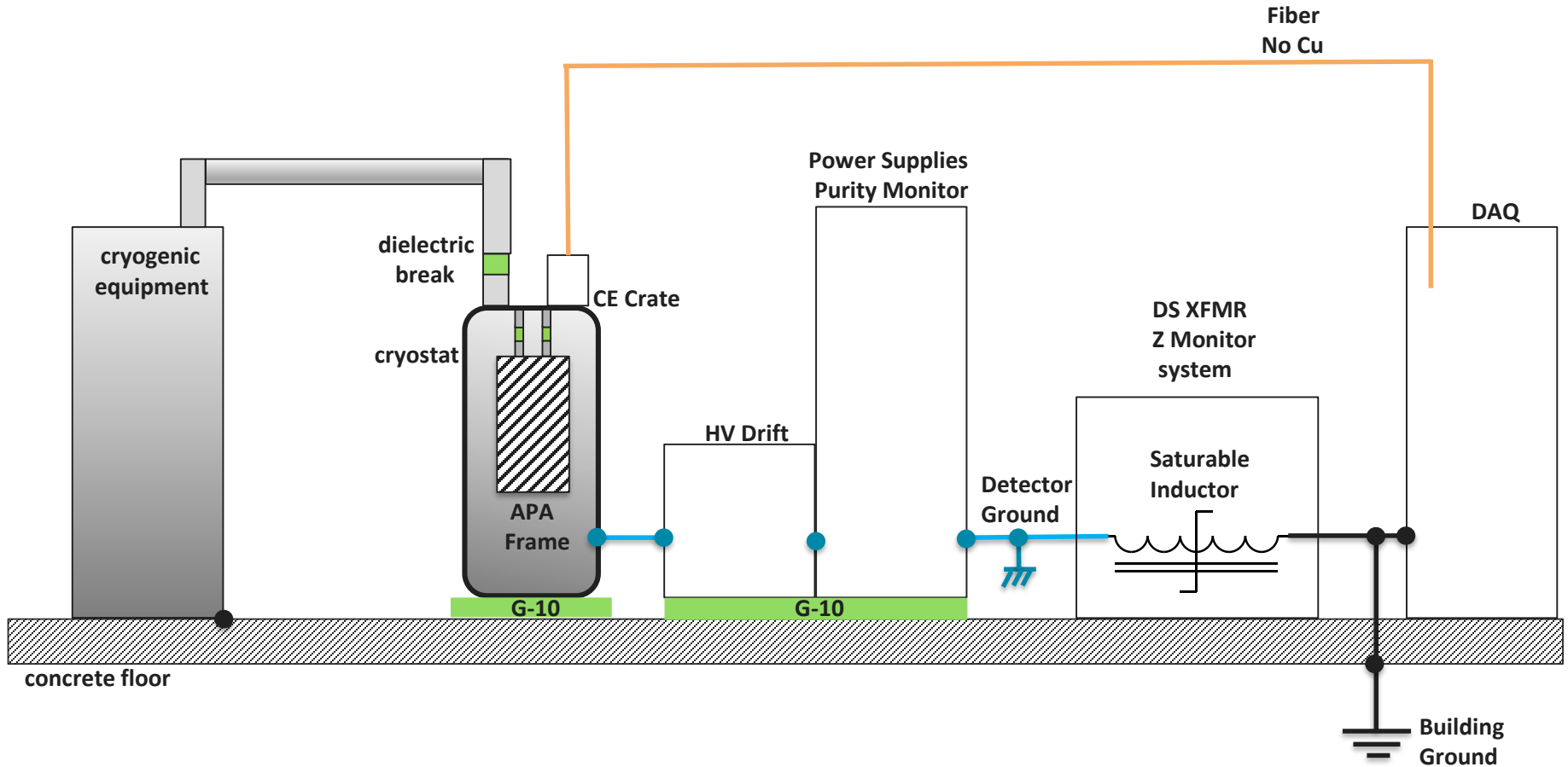


ICEBERG 'low-noise' Grounding Scheme @ PAB

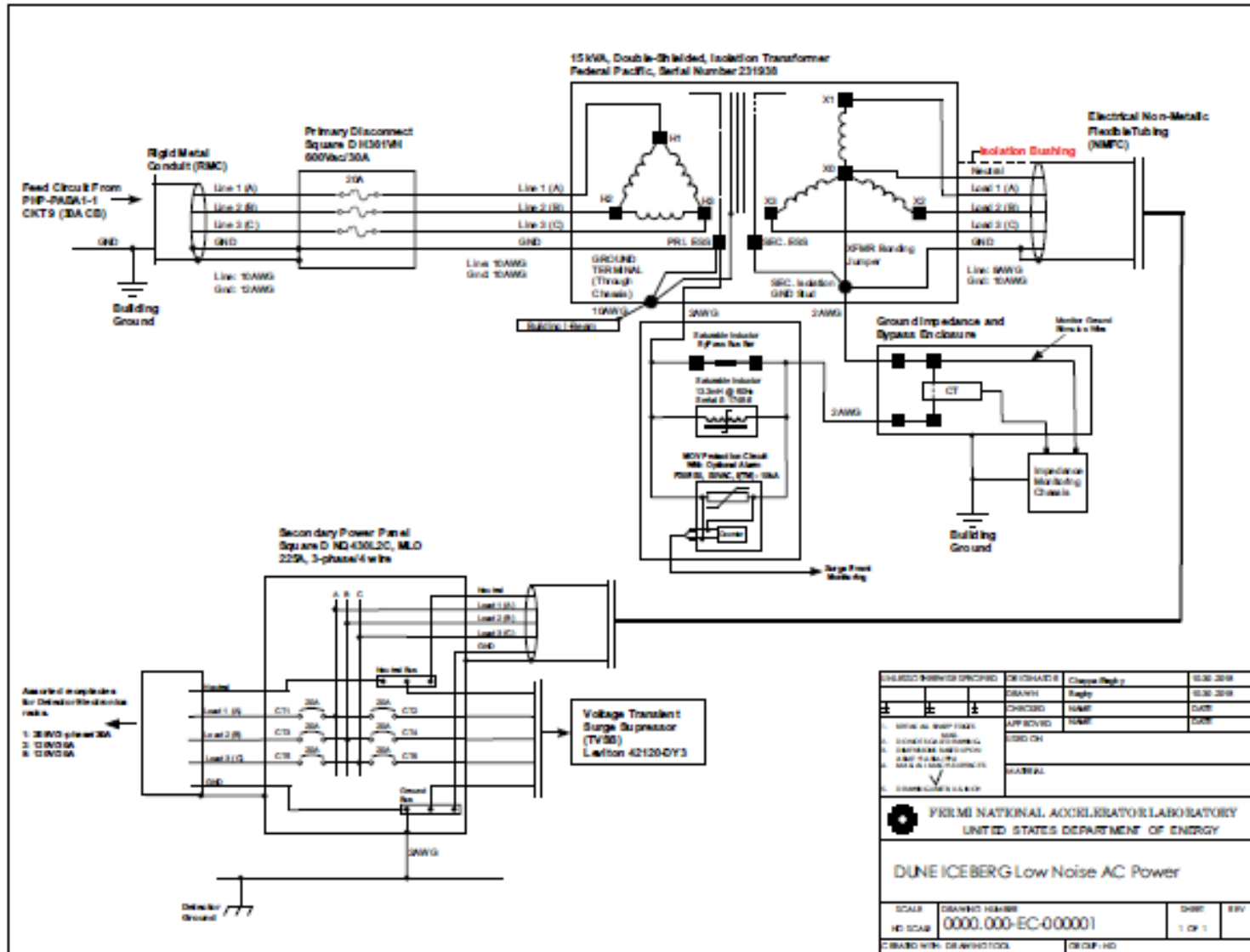
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Grounding Block Diagram



ICEBERG AC Schematic



Grounding Rules-Briefly

- Dielectric breaks on all cryogenic piping.
- Detector electronics powered from 'low-noise' power.
- Galvanic, or preferably, optical isolation required between equipment powered across the ground boundary.
- Cable tray for copper cables between electronics rack and cryostat is isolated from building ground, connected to detector ground.

Reference slides

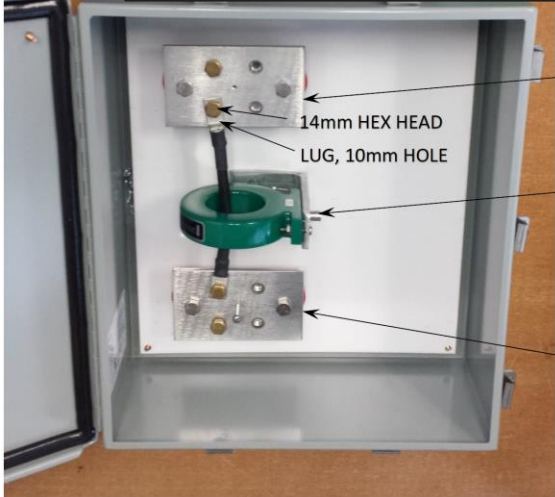
Skid Components

Saturable Inductor Module

15kVA
XFMR



Current Transformer



- FLAG CONNECTION TO DETECTOR GROUND
- 14mm HEX HEAD LUG, 10mm HOLE
- PEARSON 2100 CURRENT TRANSFORMER
- FLAG CONNECTION TO SATURABLE INDUCTOR



Impedance Monitor (GIZMO)



Custom design XFMR Specifications

- 480Y/277VAC source with a 480V/30A service can provide 24.9kVA power.
 - $480V_{LL} * 30A * \sqrt{3} = 24.9kVA$
- 15kVA service provides power for
 - 3 120V/30A racks (24A continuous each)
 - 1 120V/20A rack (16A continuous)
- ~\$3500 (a few yrs old) + optional heat run test ~\$900
- 3-4 wk delivery upon receipt of design approvals

Dry Type Transformer

Ventilated dry type construction built and tested to ANSI, NEMA, and IEEE standard specifications

Item #1 Ratings

Quantity	1
kVA	15
Phase	Three
Frequency.....	60
Primary Voltage / BIL.....	480 Delta-10kV
Secondary voltage / Bil.....	208Y/120-10kV
Conductor.....	Copper
Temperature Rise.....	115°C above an average ambient of 30° C
Impedance.....	Between 1.8% and 4.5%
Taps (approx)	+2/-4@2.5%
Insulation System	220° C