# Hipot test of solenoid

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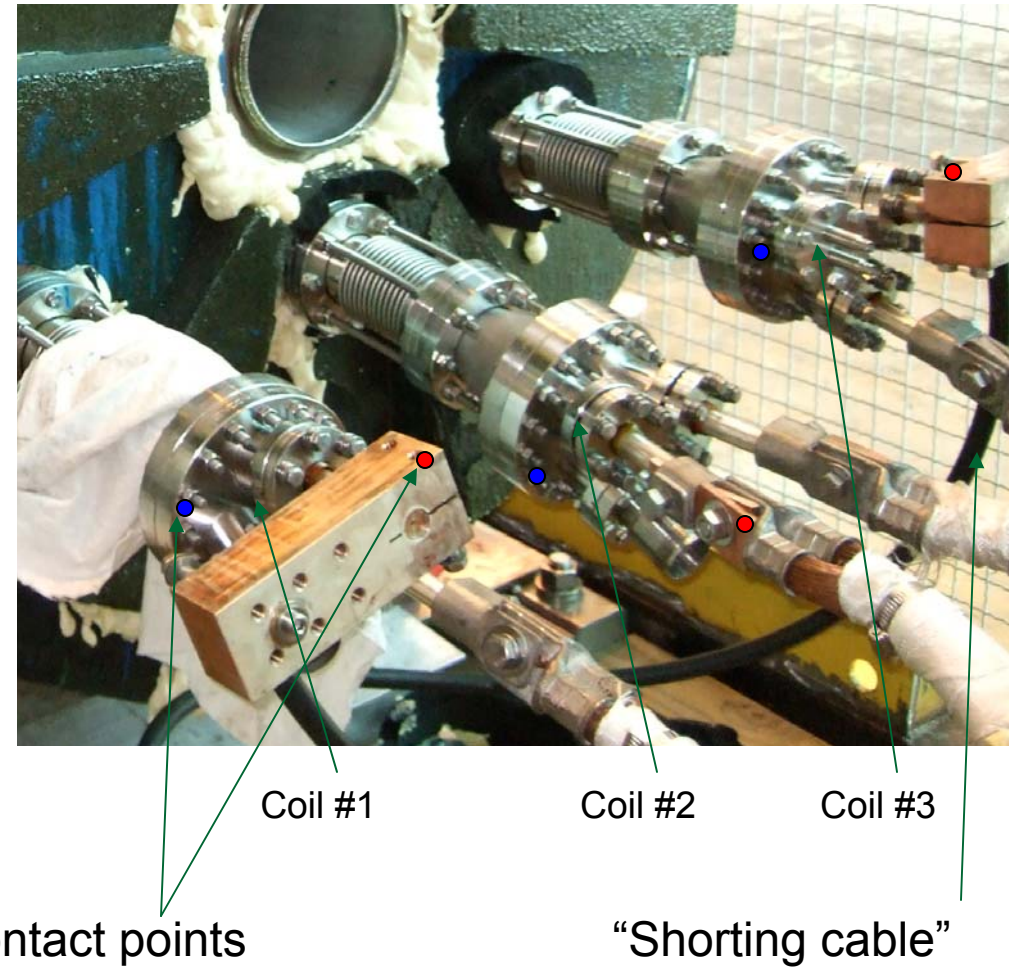
# Description

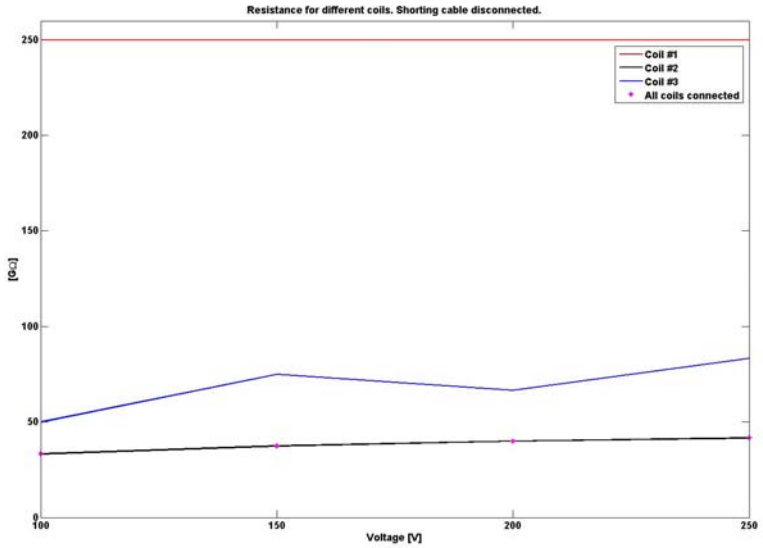
- Measure resistance between different points (I/V measurement). Slight bending of the middle coil might cause leakage current.

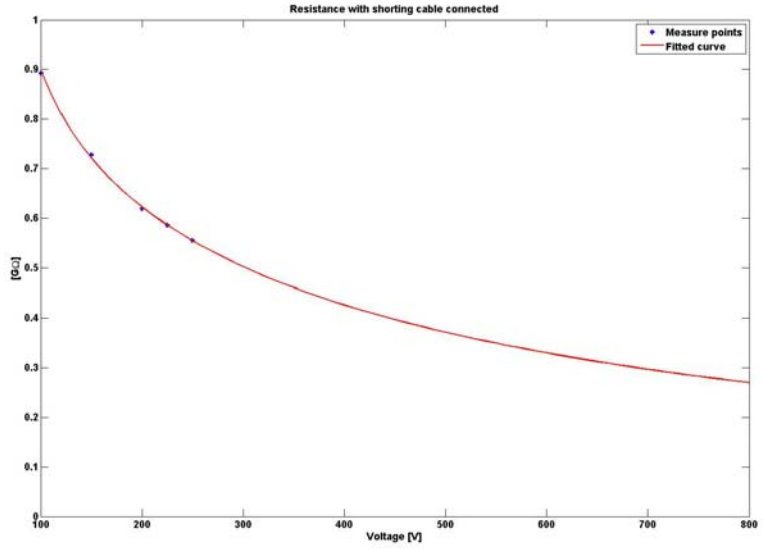
- Equipment:
  - Power supply: Caen N470
    - Current monitor at μA accuracy
  - Current meter: Keithley 2001
    - Tens of nA



# Results

- With the “shorting cable” connected, a resistance of ~400 MOhm was measured at 800 V, compared to 0.4 Ohm for the coils. (Using the CAEN current monitor)
- Not alarmingly low (one billionth of the current leaks away), but:
- Removing the shorting cable and separating each coil by removing the jumpers gave significantly higher resistance: 30 GOhm or more.
- (The displayed values for Coil #1 are a lower limit.)



# Conclusions

- No significant leakage current detected in any isolated coil.
- Replace present shorting cable in final configuration.
- The maximum voltage used with the shorting cable disconnected was 250 V (Keithley restriction). A change in resistance might occur when increasing it, although these measurements show no decreasing trend towards higher voltage.