Proposal of ELQA tests during 11 T series magnet consolidation

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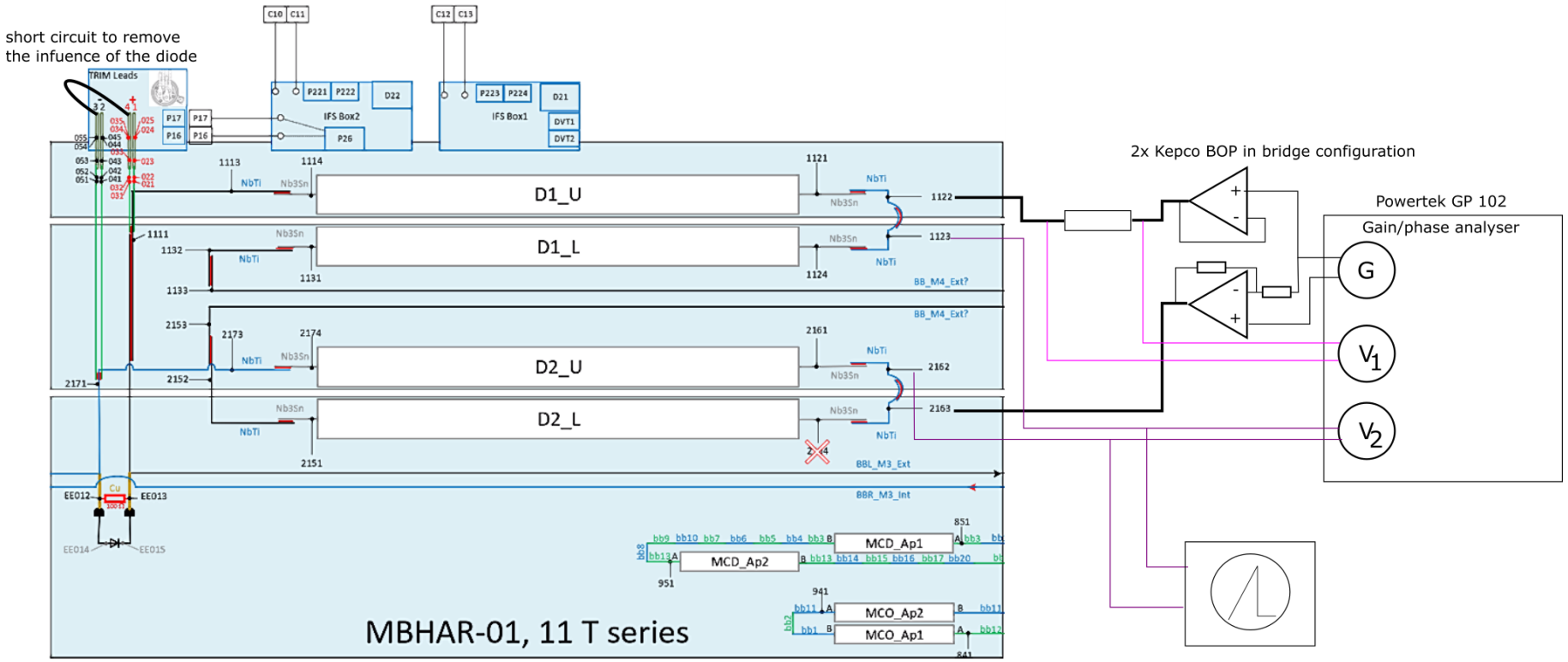
Electrical QC plan proposal from ELQA team

1. Tests of new capillary
2. Before cutting
   - HV @660 V
   - TFM @140 V, 1 A + acquisition of waveforms
   - Capacitor discharge
3. Open diode container (optional)
   - disconnect diode V-taps, test them at 5 kV vs. the rest grounded
   - disconnect diode to allow TFM/capacitor discharge on full magnet (and HV test of the diode)
4. IFS removal (during cutting)
   - First cut at the bottom and HV test on each wire to others + GND @3 kV, using ELQA multichannel system from top
   - HV @660 V on the magnet + manipulation of remaining wires
5. Investigation on removed capillary
   - Visual inspection
   - HV each wire to others + GND @3 kV, using ELQA multichannel system in He + manipulation (low current limit)
   - HV each wire to others + GND @5 kV
6. Test of magnet without capillary
   - Repeat point 2
7. New capillary installation
   - Repeat point 2

TFM setup


short circuit to remove
the infuence of the diode
TRIM Leads
IFS Box2
IFS Box1
D1_U
D1_L
D2_U
D2_L
MBHAR-01, 11 T series
MCD_Ap1
MCD_Ap2
MCO_Ap2
MCO_Ap1
2x Kepco BOP in bridge configuration
Powertek GP 102
Gain/phase analyser
G
V1
V2