DSG Modification to the Constant Current Source Board for SoLID

Marc McMullen
Detector Support Group
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Modifications

- Board modification to 24 V
- Remote/local selection reroute
- Input power fuse holder
PCB Layers (All)

- Plane clearance: 50 mils
- Min. trace width: 20 mils
- SMT Fuse
1. JPx01 header is removed
2. JPx02 header is re-routed
3. Input power fuse added
4. PL101 is replaced with 2-pin header
Power plane is re-partitioned into two planes
- 24 V for voltage reference (U1) and all op-amps
- 1 V for supply to constant current circuit.
• No change to ground plane
Bottom layer
1. JP101 header selects voltage source

2. JP102 pin 2 is connected to K101 common contact (if jumper is in local position, voltage will be connected from JP102_3 and relay when it is energized)
1. PL101 is changed to 2 pin connector for 24 V and GND
2. F1 is added for board circuit protection
3. JPx02 is re-routed to control remotely or locally
Routing Notes

• Modifications to design have been completed
  – What current protection is being implemented for relay coils
  – Precision for Rx01 resistors is currently 0.1%
Conclusion

- Design modifications have been completed
- The design is under review
Thank You