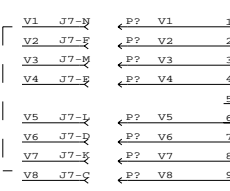


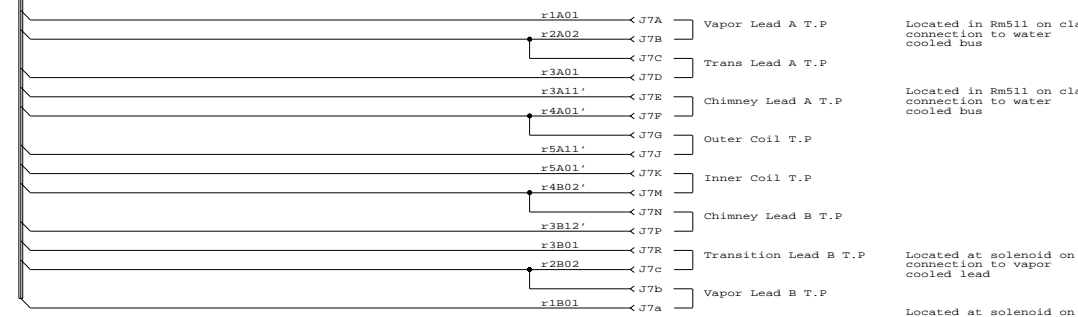
- Notes:
- 1) Voltage taps 1A0, 2A0, 3A0, 1B0, 2B0, 3B0, and V1-8 are terminated in connectors J2,3,5,6,7 and routed to safety resistor box near lead box.
  - 2) Voltage taps 3A1, 4A0, 5A0, 5A1, 5B0, 4B0 and 3B1 are terminated in connector J6 and routed to safety resistor box near solenoid vessel.
  - 3) R1-R13 are 200 ohm, 3W, 1%, Dale RS-2B
  - 4) R20-R54 are 10K ohm, 10W, 1%, Dale RS-10
  - 5) R60-R67 are 10K ohm, 5W, 1%, Dale RS-5
  - 6) R80-R81 - 301K ohm 1/2W, 1%, Dale RN65C.  
Note: R80-R81 are used to balance the voltage drops on the source resistance (100 Ohms plus the lead resistance) before the 10K limiter resistor. There is a voltage drop on the source resistance from the current paths through the 100 to 1 dividers and the bridge resistors
  - 7) S1 is Burndy GOB 14-92 SNE
  - 8) S2, S5, S6 is Burndy GOB 18-22 SNE
  - 9) S3 is Burndy GOB 12-88 SNE
  - 10) S4 is Burndy GOB 12-88 PNE
  - 11) S5 is Burndy GOB 18-22 PNE
  - 12) J7 is Burndy GOB 20-30 SNE
  - 13) TB1-TB6 are 8 contact terminal block, Cinch 8-140
  - 14) TB7-TB12 are 11 contact terminal block, Cinch 11-140
  - 15) TB13, TB14 are 9 contact terminal block, Cinch 9-140
  - 16) Terminal blocks and resistors mounted on 3/32" G-10 base plate
  - 17) All internal wiring IAGW20 TPE insulated
  - 18) External test points mounted on 3/32" G-10 plate with minimum of 0.75" creepage path between each other and ground through 1 Meg 1W resistor with a parallel 1000pF 3kV capacitor
  - 19) \* Is used to denote resistance of SS leads used for voltage taps. Numbers are warm/cold resistance in Ohms.

- Signal nomenclature:
- 1) Solenoid signals are labeled 1A0, 2A0, 3A0, 3A1 etc.
  - 2) Signals are isolated from the solenoid with 100 ohm resistors and then multiple connections are made such that up to four connections to each signal are present.
  - 3) Each occurrence of the signal is then protected by a 10K ohm resistor and routed to the Burndy connector.
  - 4) A small "r" is prefixed to each signal name after its protection resistor to designate "resistor protected".
  - 5) A number (0-3) is postfixed to each signal to identify each particular signal as it is routed to its destination in the quench detector.
  - 6) Test points are routed through isolation and protection resistors also; but are labeled to directly identify the corresponding solenoid signal. For example: TP1A0 is connected to solenoid signal 1A0 through a 10K protection resistor and a 100 ohm isolation resistor.
  - 19) \* Is used to denote resistance of SS leads used for voltage taps. Numbers are warm/cold resistance in Ohms.

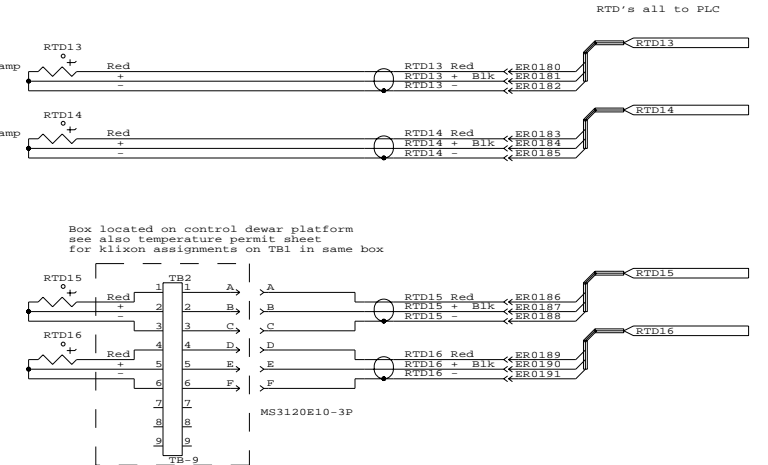
These leads attach to the solenoid chimney lead field joint voltage taps. They are used to manually monitor voltage drops during commissioning. They are not used by the quench detector system. The Toshiba connector is located near the lead box and is shared by the transition and vapor lead voltage taps. Implicit connections go to solenoid shown above.



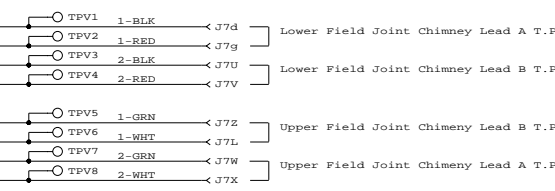
Data Logger Connection Point



- Vapor Lead A T.P
- Trans Lead A T.P
- Chimney Lead A T.P
- Outer Coil T.P
- Inner Coil T.P
- Chimney Lead B T.P
- Transition Lead B T.P
- Vapor Lead B T.P



Chimney Lead Field Joint Test Points and external connector (Not used in Quench Detection System)



Originator - W. Jaskierny Drawn - R. Hance	FermiLab Research Division / DZERO Dept. Electronics Group
Solenoid Energization, Controls & Interlocks	
Solenoid (PTaps & Protection Resistors)	
Originated 31 Aug 95 Last Revision 06 June 2001 June 6, 2001	SIZE FSCM NO D DWO NO 3823-111-ED-330052 REV SCALE SHEET 12 OF 17