

DSG-SoLID Magnet Controls Meeting Minutes

Date: July 14, 2021

Time: 11:00 – 12:00

Attendees: Aaron Brown, Peter Bonneau, Pablo Campero, Brian Eng, George Jacobs, and Marc McMullen

1. Completed modifications of electrical drawings

Mary Ann Antonioli and Pablo Campero

1. Drawing A00000-16-03-0402 *JT and EB Valve Cable Diagram*
 - Added extra terminal strip for drain wire
2. Drawings A00000-16-03-0210, 0212, 0213 *Temperature Sensors Wiring Diagram*
 - Changed colors for wires
3. Drawings A00000-16-03-0211 and 0214 *CCS Boards Wiring Diagram*
4. Drawing A00000-16-03-0406 *Diode and PT-102 Temperature Cable Diagram*
 - For the heat exchanger sensors' connections, replaced single 8-conductor cable with two 4-conductor cables

2. Modification electrical drawings

Mary Ann Antonioli and Pablo Campero

1. A000000-16-03-0260 *CCR Valves LVDT Wiring Diagram*
 - Changing colors for cables shown in drawings to match selected cable
 - Combining seven 2-conductor cables into one 20-conductor cable
2. A00000-16-03-0313 *PLC IO, Remote B, Slot 3, Wiring Diagram*
 - Combining seven 2-conductor cables into one 20-conductor cable
3. A00000-16-03-0350 *Power Supply Terminal Strips*
 - Researched whether a single 2-A breaker can be used for more than one signal conditioning module
 - Power required for six backplanes is 7.2 W, 1.44 A; each backplane has eight SCM5B30-01 Dataforth modules; therefore, a 2-A breaker can be used for the six backplanes
4. A00000-16-03-0100 *Instrumentation Control Panel - Rear Layout*
 - Determining total number of 2-A breakers required

3. New electrical drawings in progress

Mary Ann Antonioli and Pablo Campero

1. A00000-16-03-0314 *PLC IO, Remote B, Slot 4, Wiring Diagram*
2. A00000-16-03-0504 *HX Valves LVDT Wiring Diagram*

4. Cables for SoLID magnet instrumentation

Pablo Campero, Brian Eng, and Marc McMullen

1. Checked cable needed for the voltage tap sensors' connections in the rack
 - From MAG-TS-09 terminal strip to signal conditioning module
 - Will check if previously ordered cable (rated for 600 V) is in stock
 - From signal conditioning interface board to PLC-TS-09 terminal strip
 - Can use leftover cable
 - From PLC-TS-09 terminal strip to PLC module terminal block
 - Can use leftover cable

- Verified specifications for Dataforth modules that will be used for voltage tap readout
 - Voltage input range: -40 V to + 40 V
 - Dataforth signal conditioning modules are rated to 240 VAC or ~170 VDC for input protection
 - Checking transient rating ANSI/IEEE C37.90.1
2. Checked cable needed for the LVDT macro sensor signals' connection in the rack
 - From terminal strip (MAG-TS-13 and HX-TS-02) to signal LVDT macro sensor
 - From LVDT macro sensor to PLC-TS-13 terminal strip
 - From PLC-TS-13 terminal strip to PLC module terminal block
 - All three cables can be fabricated from previously ordered leftover cable
 3. Researched possibilities to reduce the number of cables used to connect LVDT macro sensor to PLC terminal strip
 - Can combine seven 2-conductor cables into one 20-conductor cable to connect LVDT macro sensors to PLC-terminal strip
 4. Checked cable needed for the valve motor drive signals' connection in the racks
 - From terminal strip to MCR terminal for contacts
 - From PLC terminal strip (relay module) to MCR relay terminals
 - From PLC terminal strip to PLC terminal block
 - terminal block
 - All three cables can be fabricated from previously ordered leftover cable
 - Will order cables to connect
 - From PLC-TS to MCR relay terminals (HX valves)
 - From 3-position switch to MCR relay terminals
 - From PLC terminal strip (DC input module) to key switch terminals

