DSG-SoLID R&D Meeting Minutes

Date: April 22, 2021
Time: 11:00 – 12:00

Attendees: *Mary Ann Antonioli, Aaron Brown, Pablo Campero, George Jacobs, Marc McMullen, Tyler Lemon, and Amrit Yegneswaran*

1. Researched cables for SoLID magnet instrumentation

Pablo Campero, Brian Eng and Marc McMullen

1. Selected cable AL-2212C-2-2S-01 for temperature sensors
   - Low voltage
   - Twelve-conductor, providing two extra over the minimum ten required
   - Gauge 22 AWG
2. Ordered three, 500' spools
3. Researched options for voltage taps cable; available options are shown in the table below

#	Cable Name	P/N	AWG	Shield	Conduc-tors	Length [ft]	Need [ft]	Link	Rating	Comment
1	Voltage tap	Southwire 56302999	18	foil/ foil pairs	16		100	https://www.southwire.com/wire-cable/power-control/instrumentation-300v-600v/p/56302999	CM/FT4	
2	Voltage tap	82-600-620	18	foil	25	100	100	https://www.showmecables.com/18-awg-multi-conductor-600v-stranded-conductor-shielded-vntc-tray-cable	TC/UL 1277 / UL 1685	ICEA color method
3	Voltage tap	2591818	18	Braid/ foil	18	100	100	https://www.alliedelec.com/product/sab/2591818/70039137/	VW-1/FT1/FT2	18 black, numbered conductors with 3 green/yellow conductors
4	Voltage tap	CF140US	20	Braid/ foil	18	100	100	https://www.igus.com/product/1048	VW-1/FT1	18 black, numbered conductors with 1 green/yellow conductor

Green = close to required specifications; pink = not to required specifications

4. Discussed connector for the voltage tap cable
   - CPC series
   - 600 V rating
   - Type 3 with contacts that can handle 17 A
   - Can fit up to 14 AWG wire (will use 18 AWG maximum)

2. Assembly of the Motor Controlled Relay (MCR) boards

Mindy Leffel and McMullen

1. Will deliver bare board and electronic components to Mindy Leffel for assembly of one of the two required MCR boards
2. After assembly of the first board, testing will be performed

3. Drawings in progress

Mary Ann Antonioli and Pablo Campero

1. A00000-16-03-0401 Voltage Taps Cable Diagram
2. A0000-16-03-0406 Cable Diagram for Diode and PT-102 Temperature Sensors
3. Need to verify that colors for conductors shown on A00000-16-03-*0400 Rhodium-Iron Temperature Sensors Cable Diagram* and A00000-16-03-0210 *Rhodium-Iron Temperature Sensors Wiring Diagram* match the conductor colors in selected cable