### Interface Control Document

**RockSat-X Power**

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<table>
<thead>
<tr>
<th>Interface Type</th>
<th>Description</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td><strong>Mechanical</strong></td>
<td>Customers will be provided power and ground for flight operations through the RockSat-X Power Connector</td>
<td></td>
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<tr>
<td>Connector Type</td>
<td>15 Pin Cannon (D-Sub)</td>
<td></td>
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<tr>
<td>Gender</td>
<td>Male (pins)</td>
<td></td>
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</tbody>
</table>

**Constraints:**

Wallops and COGSC maintain the right to remove payloads not meeting these specifications:

- Current: GSE and Timed Event times are limited by WFF. Please see the diagram tab for clarification on limits.
- Flight Power Off: All decks will lose power at "T+6 minutes (T+330 seconds)."
- Capacity: Each full payload space has been allotted their own 1 Ah battery.

**Electrical, Ground (GND)**

Wallops will supply a current return ground connection.

- Pins: 5, 8 and 12 - 15 on RS-X Power Connector
- Max Current: 1 Amp max per line

**Electrical, Ground Support Equipment (GSE)**

Wallops shall supply power lines capable of activation prior to launch.

- Pins: 1 and 9 on RS-X Power Connector
- Voltage/Polarity: 28 +/- 6 V nominal per line
- Max Current: 1 Amp max per line

Special Considerations for GSE lines:

- All go active at T-3 and remain active for duration of flight. Also, see additional comment above.

**Electrical, Timed, Non-redundant (TE)**

Wallops shall supply three non-redundant lines capable of activation post launch.

- Pins: 4, 10, and 15 on RS-X Power Connector
- Voltage/Polarity: 28 +/- 6 V nominal per line
- Max Current: 1 Amp max per line

Special Considerations for TE lines:

- TE-1 Activation Time Post Launch/Dwell Time: From T+0.1 to T+6 minutes (Customer Defined) with Dwell Time from 1 second to flight.
- TE-2 Activation Time Post Launch/Dwell Time: From T+0.1 to T+6 minutes (Customer Defined) with Dwell Time from 1 second to flight.
- TE-3 Activation Time Post Launch/Dwell Time: From T+0.1 to T+6 minutes (Customer Defined) with Dwell Time from 1 second to flight.

**Electrical, Timed, Redundant (TE-R)**

Wallops shall supply a single redundant line capable of activation post launch.

- Pins: 2 and 3 on RS-X Power Connector (Customers connect together)
- Voltage/Polarity: 28 +/- 6 V nominal per line
- Max Current: 1 Amp max per line

Special Considerations for TE-R lines:

- TE-RA/RB Activation Time Prior to Launch/Dwell Time: From T-10 to T-3 minutes (Customer Defined) with Dwell Time from 1 second to flight.
Power Pin-Out

Customer Side Connector (On Deckplate)-MALE

Timing Definitions For Timer Events
Current Limits on Power Lines

- Polyswitch 1.85A
  - GSE Controlled Power
  - GSE Controlled Power

\[ [(GSE-1) + GSE-2)] \leq 1.85 \text{ A} \]

- Polyswitch 3.75A
  - Timer Controlled Event RA
  - Timer Controlled Event RB
  - Timer Controlled Event #1
  - Timer Controlled Event #2
  - Timer Controlled Event #3

\[ [(TR-RA) + (TR-RB) + (TE-1) + (TE-2) + (TE-3)] \leq 3.75 \text{ A} \]