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**INACTIVE FOR NEW DESIGN;**
(REFER TO GSFC S-311-641 GENERAL REQUIREMENT FOR THERMOSTATIC SWITCHES)

**PREPARED BY**  
John P. Lawrence  
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**APPROVED**  
George P. Kramer, Jr.  

**TITLE**  
Procurement Specification for a Thermostatic Switch  
(Sunstrand Data Control Inc.)

**S-311-428**

Branch -  
Division -  
Project -  

GODDARD SPACE FLIGHT CENTER  
GREENBELT, MARYLAND
Switch, Thermostatic

1.0 **SCOPE:** This document defines the special requirements to be specified by the user and acceptance test requirements to be performed by the manufacturer (Sunstrand Data Control Inc.) prior to shipment.

2.0 **GENERAL**

2.1 **Intended Application:** These thermostatic switches must meet the rigors of launch and subsequent extended spaceflight with extremely high probability of successful operation.

2.2 **Standard Test Conditions:** Unless otherwise specified, all tests, measurements, inspections and examinations shall be conducted under the following conditions:

   a. Temperature - +15°C to 35°C
   b. Relative Humidity - 30 to 80 percent
   c. Barometric Pressure - 650 to 800mm of mercury.

2.3 **Recording and Shipment of Data:** Acceptance test data shall be recorded on data sheets suitable for the purpose. Data shall be related to the respective switch serial number. A copy of the data summary shall be shipped with the switches.

3.0 **REQUIREMENTS:** The total switch requirements are comprised of those delineated in:

   a. The purchase order/request (see para. 3.1)
   b. Para. 3.2

3.1 **Purchase Order/Request Requirements:** The purchase order/request shall specify the following:

   a. The physical configuration desired
   b. Define the temperature set points as maximum temperature and minimum temperature with 20°F minimum spread between maximum and minimum limits and with
a 70F minimum differential. Specify whether the switch should open on temperature rise or close on temperature rise, or alternately, define open or close as the critical set point with a tolerance of ±50F and allow the other set point to float 7 to 200F above or below the critical set point.

3.2 Inspection, Screening and Quality Control Requirements: The following Sunstrand Data Control Inc. (Redmond, Washington) documents (as a minimum), in effect on the date of invitation for bids, or request for proposal, form a part of the switch requirements. Unless otherwise specified, the entire document applies:

a. 061-0223-001 - Inspection Criteria for Thermal Switches 1/

b. 061-0278 - Determining Thermal Switch Cleanliness Using Micro-Particle Analysis 2/

c. 975-0000-601 - Product Specification, High Reliability Thermal Switch

d. 975-0000-701 - Standard Acceptance Test Procedure--Switch, Thermal 3/

e. 975-0000-101 - Group "B" Inspection Test Procedure for SDC High Reliability Thermal Switches 4/

Reference:

1/ Pre-cap visual inspection - 100 percent of specimens.
2/ Millipore cleaning and testing - cleaning, 100 percent; inspection, 2 percent.
3/ Screening tests - 100 percent of specimens.
4/ Group "B" tests - Specimen size is lot dependent. (min--4, max--8).