INCH-POUND
MIL-PRF-8805/93E
11 May 2010
SUPERSEDING
MIL-PRF-8805/93D
31 October 2001

PERFORMANCE SPECIFICATION SHEET

SWITCHES, TOGGLE, UNSEALED, 7.0 AMPERES

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the switches described herein shall consist of this specification sheet and MIL-PRF-8805.

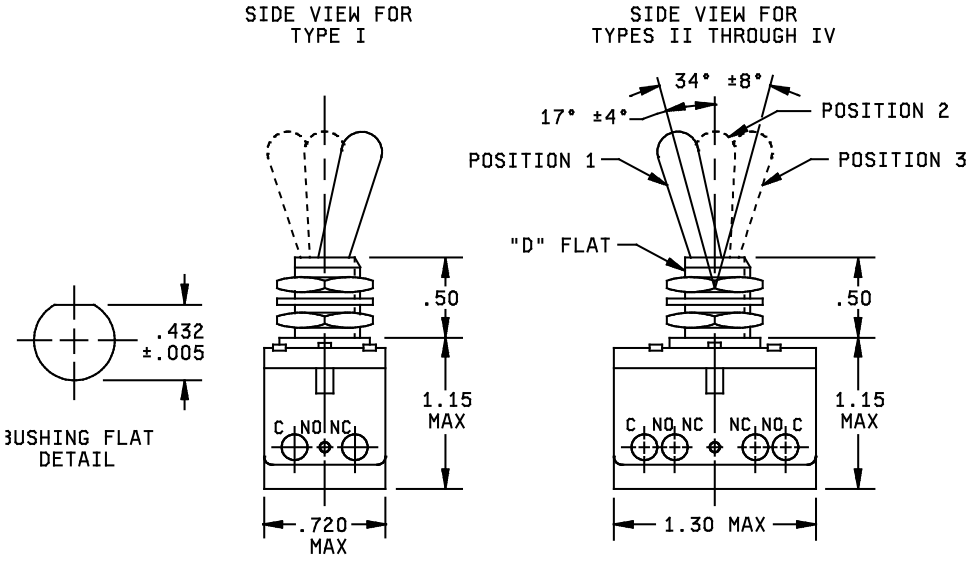
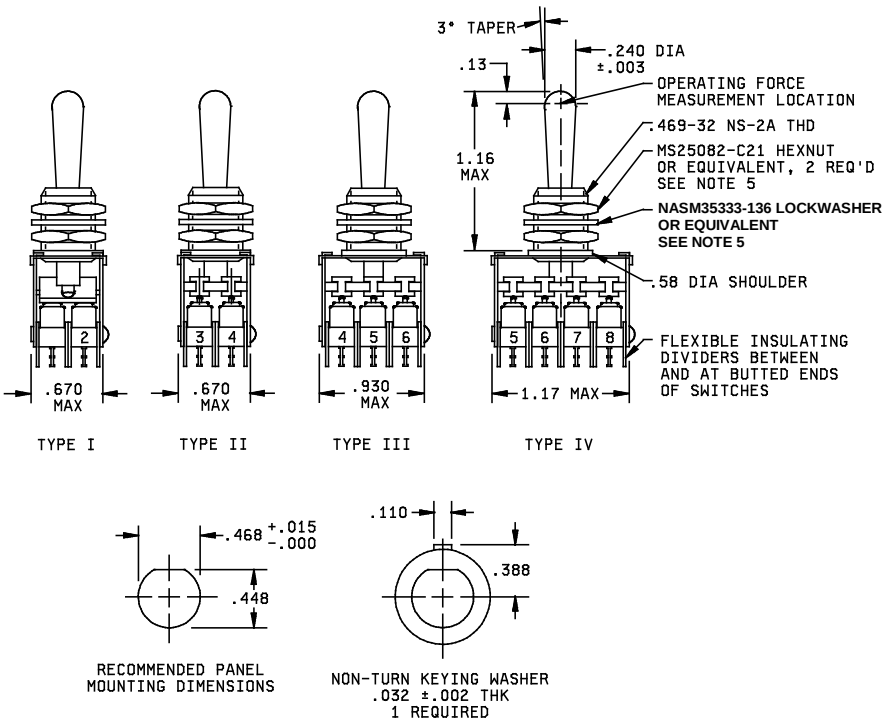


FIGURE 1. Configurations and dimensions.

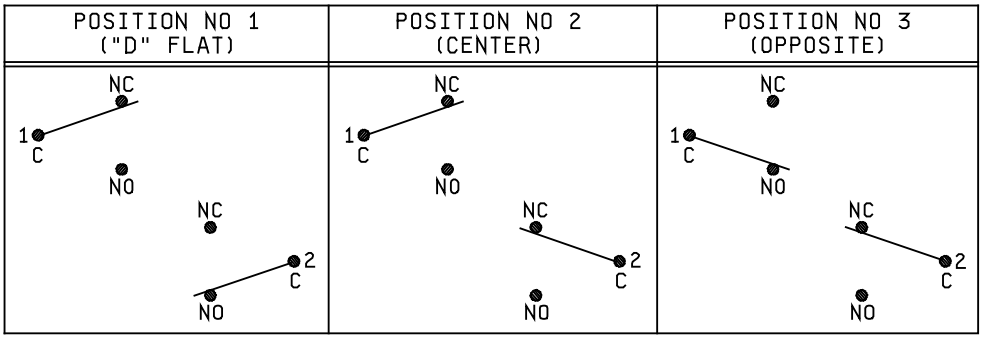


Inches	mm	Inches	mm	Inches	mm	Inches	mm
.002	0.05	.110	2.79	.468	11.89	.930	23.62
.003	0.08	.13	3.30	.469	11.91	1.15	29.21
.005	0.13	.240	6.10	.50	12.70	1.16	29.46
.015	0.38	.388	9.86	.56	14.22	1.17	29.72
.03	0.76	.432	10.97	.670	17.02	1.30	33.02
.032	0.81	.448	11.38	.720	18.29		

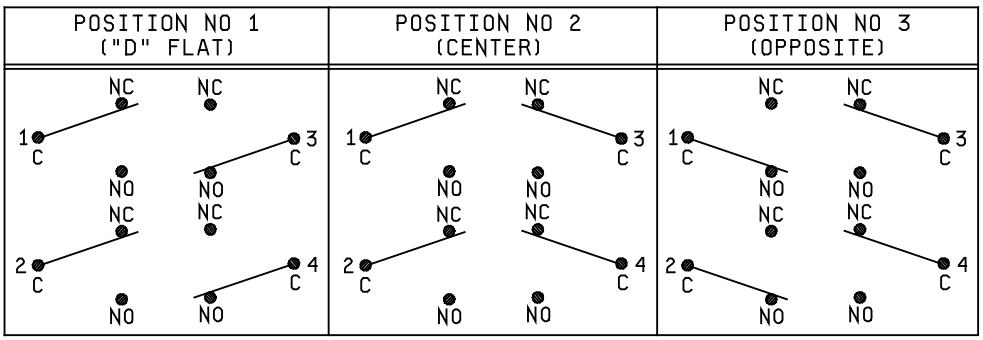
NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ±.03 inch (0.76 mm) for two place decimals and ±.005 inch (0.13 mm) for three place decimals.
4. Configuration optional provided that specified envelope dimensions are not exceeded.
5. Alternative base metals and protective finishes, as approved by the qualifying activity, may be utilized for hexagon nut, lock washer and key washer material. Dimensions shall be in accordance with the referenced hardware specifications.

FIGURE 1. Configurations and dimensions - continued.

TYPE I
SCHEMATIC DIAGRAM



TYPE II
SCHEMATIC DIAGRAM



TYPE III
SCHEMATIC DIAGRAM

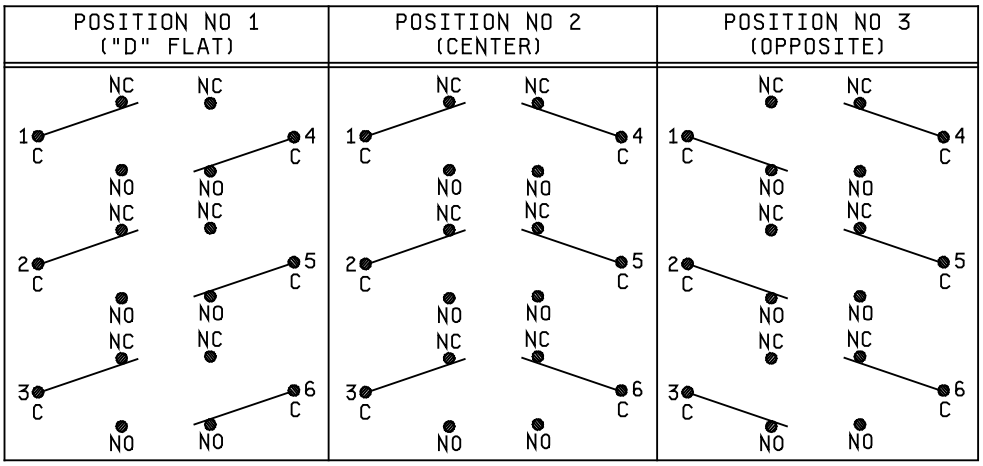


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FIGURE 2. Schematic diagram.

TYPE IV
SCHEMATIC DIAGRAM

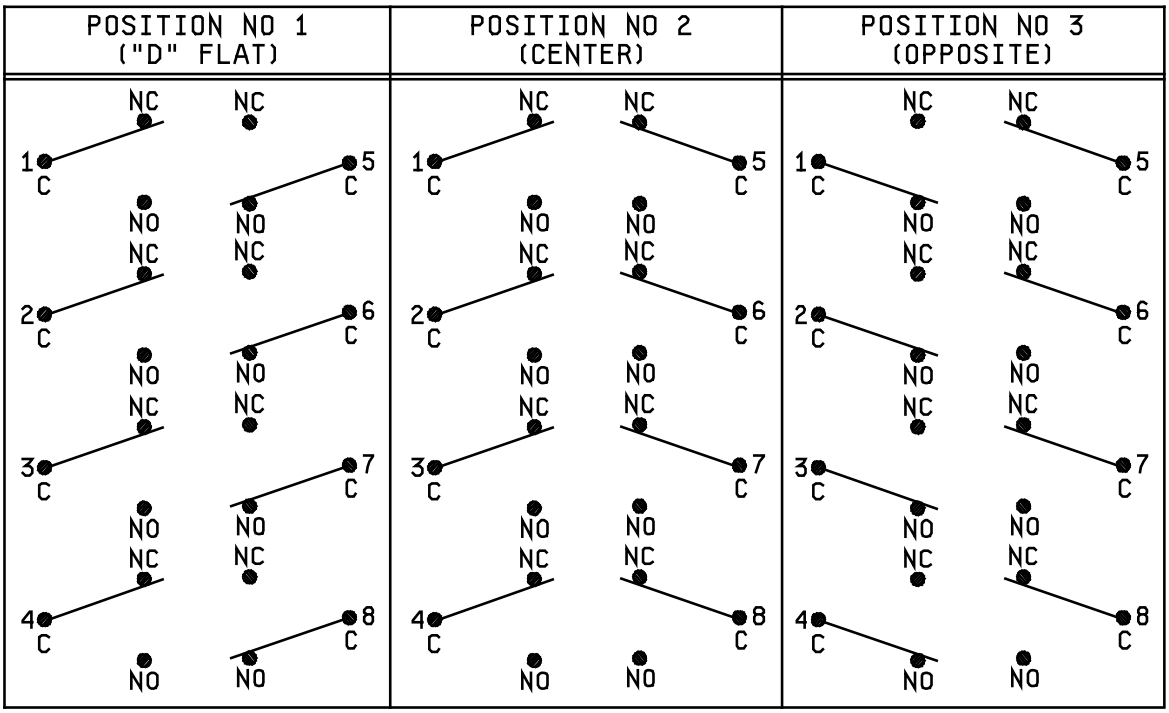

FIGURE 2. Schematic diagram - continued.

REQUIREMENTS:

Dimensions and configuration: See figure 1. Basic switch shall be MS24547-4 (MIL-PRF-8805/4).

Enclosure design: 1 (Unsealed). Use boot in accordance with MIL-DTL-5423/2 (PIN M5423/02-01) for panel seal.

Temperature characteristic: 1 (-40°C to +85°C).

Shock (specified pulse): MIL-STD-202, method 213, test condition C, (100 g, half sine).

Sinusoidal vibration grade: 1 (10 to 500 Hz, 10 g peak).

Weight:
Type I: 0.78 pound maximum.
Type II and III: 0.93 pound maximum.
Type IV: 0.125 pound maximum.

Terminal strength: 5 pounds.

Contact resistance: Initial 50 milliohms, 100 milliohms after mechanical endurance.

Operating characteristics:

Coincidence of operating and release points: All poles shall transfer within 5°.of lever travel.

Operating force: 6 pounds maximum.

Material:
Lever and bracket: Corrosion resistant steel or equivalent.

Dielectric withstanding voltage:

Altitude: 50,000 feet (MIL-STD-202, method 105, test condition B).

Mechanical endurance: 50,000 cycles at a cycling rate of 15 to 65 cycles per minute.

Electrical endurance: 25,000 cycles.

Electrical ratings: See table I.

Part or Identifying Number (PIN): See table II

Qualification:
Group submission: See table III.

Group B inspection: Subject one M8805/93-002 or –003, and one –027 or –028 to each of the test groups specified in table IV.

TABLE I. Electrical ratings.

Load	Sea level		50,000 feet
	28 V dc	115 V ac, 60 Hz	28 V dc
	amperes	amperes	amperes
Resistive	7.0	7.0	4.0
Inductive	4.0	7.0	2.5
Lamp	2.5	2.0	2.5

TABLE II. PIN's and characteristics.

PIN M8805/93	Type (see figure 2)	Circuit	Toggle lever operation in "D" flat side – center – side opposite "D" flat
-001	I	2PDT	Maintained – maintained – maintained
-002	I	2PDT	Momentary – maintained – maintained
-003	I	2PDT	Maintained – maintained – momentary
-004	I	2PDT	Momentary – maintained – momentary
-005	I	2PDT	Maintained – none – maintained
-006	I	2PDT	Momentary – none – maintained
-007	I	2PDT	Maintained – none – momentary
-008	II	4PDT	Maintained – maintained – maintained
-009	II	4PDT	Momentary – maintained – maintained
-010	II	4PDT	Maintained – maintained – momentary
-011	II	4PDT	Momentary – maintained – momentary
-012	II	4PDT	Maintained – none – maintained
-013	II	4PDT	Momentary – none – maintained
-014	II	4PDT	Maintained – none – momentary
-015	III	6PDT	Maintained – maintained – maintained
-016	III	6PDT	Momentary – maintained – maintained
-017	III	6PDT	Maintained – maintained – momentary
-018	III	6PDT	Momentary – maintained – momentary
-019	III	6PDT	Maintained – none – maintained
-020	III	6PDT	Momentary – none – maintained
-021	III	6PDT	Maintained – none – momentary
-022	IV	8PDT	Maintained – maintained – maintained
-023	IV	8PDT	Momentary – maintained – maintained
-024	IV	8PDT	Maintained – maintained – momentary
-025	IV	8PDT	Momentary – maintained – momentary
-026	IV	8PDT	Maintained – none – maintained
-027	IV	8PDT	Momentary – none – maintained
-028	IV	8PDT	Maintained – none – momentary

TABLE III. Qualification inspection.

Examination or test	Test sample	Extent of approval
Group I (14 sample units). Visual and mechanical examination Operating characteristics	All sample units for groups II through V, plus I each of any type II unit and any type III unit	All PIN's
Group II (4 sample units). Strength of actuating means Strength of mounting bushing Thermal shock Vibration Shock (specified pulse) Operating characteristics Dielectric withstanding voltage Visual and mechanical examination Marking visibility	2 sample units of each of the following: M8805/93-002 or –003 and M8805/93-027 or –028	
Group III (2 sample units). Salt spray (corrosion) Visual and mechanical examination Marking visibility	1 sample unit of each of the following: M8805/93-002 or –003 and M8805/93-027 or –028	
Group IV (4 sample units). Contact resistance Low temperature operation 1/ Mechanical endurance at low temperature 2/ Mechanical endurance at high temperature 1/ Contact resistance Operating characteristics Dielectric withstanding voltage Visual and mechanical examination	2 sample units of each of the following: M8805/93-002 or –003 and M8805/93-027 or –028	
Group V (2 sample units). Electrical endurance Sea level Inductive load, dc Operating characteristics	1 sample unit of each of the following: M8805/93-002 or –003 and M8805/93-027 or –028	

1/ Test one M8805/93-002 or –003, and one M8805/93-027 or –028
2/ Same sample units as for low temperature operation.

TABLE IV. Group B inspection.

Examination or test
Group I Strength of mounting bushing Thermal shock Shock Operating characteristics Marking visibility
Group II Salt spray Marking visibility
Group III Low temperature operation Mechanical endurance at low temperature Contact resistance Operating characteristics
Group IV Mechanical endurance at high temperature Contact resistance Operating characteristics

Reference documents:
MIL-PRF-8805
MIL-PRF-8805/4
MIL-DTL-5423/2
MIL-STD-202

The margins of this specification are marked with vertical lines to indicate where modifications from this revision were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Custodians:
Army - CR
Navy - EC
Air Force - 85
DLA - CC

Review activities:
Army – AR, AV
Navy – AS, MC
Air Force – 19

Preparing activity:
DLA - CC

(Project 5930-2008-050)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at https://assist.daps.dla.mil/ .