

INCH-POUND

MIL-PRF-8805/98D
w/Amendment 1
29 December 2003
SUPERSEDING
MIL-PRF-8805/98D
31 October 2001

PERFORMANCE SPECIFICATION SHEET

SWITCHES, SENSITIVE, SWITCH ASSEMBLY, TOGGLE, 7 AMPERES,
PANEL SEAL, TOGGLE SEAL

This specification forms a part of MIL-PRF-8805, dated 23 January 1998, and is approved for use by all Departments and Agencies of the Department of Defense.

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

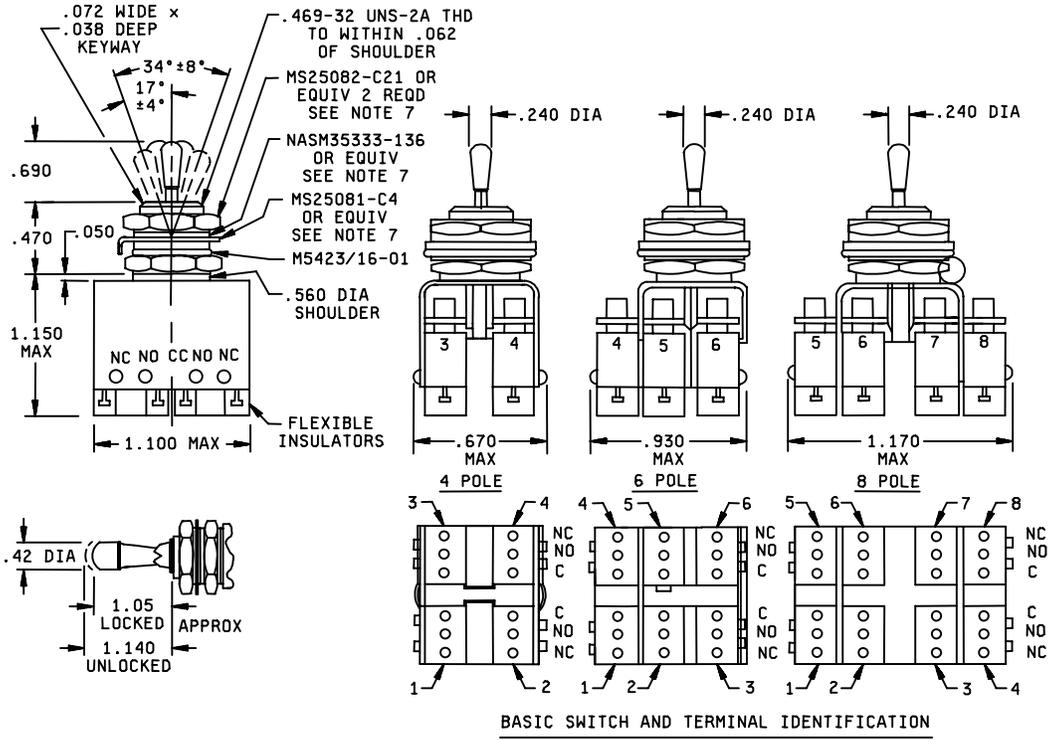


FIGURE 1. Configurations and dimensions.

MIL-PRF-8805/98D
w/Amendment 1

Inches	mm	Inches	mm	Inches	mm
.038	0.97	.470	11.94	1.05	26.7
.050	1.27	.560	14.22	1.100	27.94
.062	1.57	.670	17.02	1.140	28.96
.072	1.83	.690	17.53	1.150	29.21
.240	6.10	.760	19.30	1.170	29.72
.42	10.7	.930	23.62	1.300	33.02

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ± 0.015 (0.38 mm) for decimals and $\pm 5^\circ$ for angles.
4. Design configuration optional provided maximum dimensions are not exceeded.
5. Basic switch identification shall be permanently marked on the basic switch as shown.
6. Basic switch terminals shall be single turret (as shown) and shall accept AN-20 wire or equivalent.
7. 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.

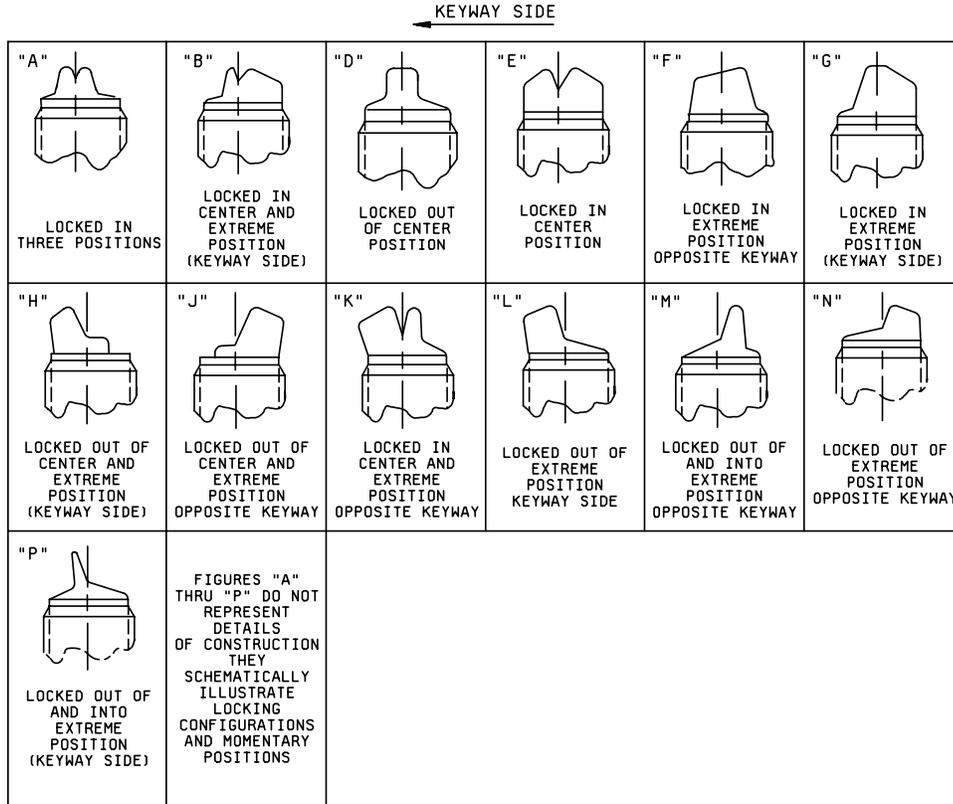


FIGURE 2. Locking arrangement.

REQUIREMENTS:

Dimensions and configuration: See figure 1 and 2.

Enclosure design: 1 (Unsealed). Switches shall have molded silicone rubber toggle to bushing seal and panel seal.

Temperature characteristic: 1 (-55°C to +85°C).

Shock type: 50 g, sawtooth, test condition G, method 213 of MIL-STD-202.

Vibration grade: Random vibration, tested in accordance with method 214 of MIL-STD-202 as follows:

20 - 300 Hz, 3 db/octave increase
300 - 1000 Hz, 0.02 G² Hz
1000 - 2000 Hz, 6 db/octave decrease

Weight (pounds maximum):

4 pole switches: .095 without lever lock, .110 with lever lock.
6 pole switches: .100 without lever lock, .115 with lever lock.
8 pole switches: .110 without lever lock, .125 with lever lock.

Toggle lever: The toggle lever shall be metal with a lusterless finish and shall have a fixed pivot.

Locking arrangement: The locking combination for the lever lock toggle lever shall provide positive locking and shall not permit a change in toggle lever position until the locking mechanism is manually released.

Panel seal: There shall be no leakage of water through the seals following the toggle seal test of MIL-DTL-83731.

Dielectric withstanding voltage:

Sea level: 1,000 V rms.
Altitude: 400 V rms at 50,000 feet.

Terminal strength: 5 pounds.

Contact resistance: Not applicable.

Strength of actuating means: 25 pounds.

Strength of mounting bushing: 25 pound-inches shall be applied to the mounting nut.

Mechanical endurance: 50,000 cycles. Lever lock switches shall also be tested for 50,000 cycles by pulling the lever to its fully extended position and returning to its fully locked position without causing contact transfer at a rate of 60 cycles per minute maximum.

Electrical endurance: 25,000 cycles.

Electrical ratings: See table I.

MIL-PRF-8805/98D
w/Amendment 1

TABLE I. Electrical ratings.

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

Quality assurance:

The following tables for quality assurance inspections shall apply only when the basic sensitive switch is approved under specification sheet MIL-PRF-8805/4.

Qualification inspection: in accordance with table II.

Group A inspection: In accordance with table III, provided in process dielectric withstanding voltage is performed.

MIL-PRF-8805/98D
w/Amendment 1

TABLE II. Qualification group submission inspection.

Examination or test	Test sample	Other switch samples	Extent of approval
<u>Group 1.</u> Visual and mechanical examination Dielectric withstanding voltage Insulation resistance Operating characteristics	<u>Group 1.</u> M8805/98-15 (2 units) M8805/98-63 (4 units) M8805/98-81 (6 units)	M8805/98-33 (6 units) 1. Visual and mechanical examination 2. Operating characteristics 3. Lever-lock mechanical endurance (4 units) 4. Salt spray (corrosion) (2 units)	All Part or Identifying Numbers (PIN)
<u>Group 2.</u> Strength of actuating means <u>1/</u> Strength of mounting bushing <u>1/</u> Thermal shock Vibration (random) Shock (50 G) Moisture resistance Dielectric withstanding voltage Operating characteristics Panel seal	<u>Group 2.</u> M8805/98-63 (4 units)	<u>M8805/98-64 (4 units)</u> 1. Strength of actuating means <u>1/</u> 2. Vibration 3. Shock (50 G) 4. Moisture resistance 5. Operating characteristics 6. Panel seal	
<u>Group 3.</u> Salt spray (corrosion)	<u>Group 3.</u> M8805/98-81 (2 units)		
<u>Group 4.</u> Low temperature operation <u>1/</u> Mechanical endurance at low temperature <u>2/</u> Mechanical endurance at high temperature <u>1/</u> Dielectric withstanding voltage Operating characteristics Panel seal	<u>Group 4.</u> M8805/98-81 (4 units)		
<u>Group 5.</u> Electrical endurance Inductive load dc	<u>Group 5.</u> M8805/98-15 (2 units)		

1/ Two sample units only. For low temperature operation, lever shall be held in momentary position.

2/ Same sample units as for low temperature operation.

TABLE III. Group A inspection.

Examination or test
Visual and mechanical examination Operating characteristics

PIN: M8805/98 - (dash number from table IV).

MIL-PRF-8805/98D
w/Amendment 1

Table IV. Dash number and characteristics.

Dash number	Number of poles	Lever action and circuitry (table V)	Locking arrangement (figure 2)	
-001 -002 -003 -004 -005 -006 -007 -008 -009 -010 -011 -012 -013 -014	4 Pole	1	None A B D E F G H J K L M N P	
-015 -016 -017 -018		3	None D F G	
-019 -020 -021 -022 -023 -024 -025		5	None E F K L M N	
-026 -027 -028 -029		7	None E L N	
-030 -031		8	None F	
-032 -033 -034 -035 -036 -037 -038 -039 -040 -041 -042 -043 -044 -045		6 Pole	1	None A B D E F G H J K L M N P
-046 -047 -048 -049			3	None D F G
-050 -051 -052 -053 -054 -055 -056			5	None E F K L M N
-057 -058 -059 -060	7		None E L N	

MIL-PRF-8805/98D
w/Amendment 1

Table IV. Dash number and characteristics - Continued.

Dash number	Number of poles	Lever action and circuitry (table V)	Locking arrangement (figure 2)	
-061 -062	6 Pole	8	None F	
-063 -064 -065 -066 -067 -068 -069 -070 -071 -072 -073 -074 -075 -076	8 Pole	1	None A B D E F G H J K L M N P	
-077 -078 -079 -080			3	None D F G
-081 -082 -083 -084 -085 -086 -087			5	None E F K L M N
-088 -089 -090 -091			7	None E L N
-092 -093			8	None F
-094 ^{1/}	4 Pole	9	P	

^{1/} Inactive for new design.

TABLE V. Lever action and circuitry.

Type number	Basic switch numbers			With toggle lever in position					
	For 4 pole	For 6 Pole	For 8 pole	Keying side		Center		Opposite keying side	
				Toggle action	Circuit closed	Toggle action	Circuit closed	Toggle action	Circuit closed
1	1-2	1-2-3	1-2-3-4	Maintain	C-NC	Maintain	C-NC	Maintain	C-NO
	3-4	4-5-6	5-6-7-8		C-NO		C-NC		C-NC
3	1-2	1-2-3	1-2-3-4	Maintain	C-NC	(None)		Maintain	C-NO
	3-4	4-5-6	5-6-7-8		C-NO	C-NC	C-NC		
5	1-2	1-2-3	1-2-3-4	Momentary	C-NC	Maintain	C-NC	Maintain	C-NO
	3-4	4-5-6	5-6-7-8		C-NO		C-NC		C-NC
7	1-2	1-2-3	1-2-3-4	Momentary	C-NC	Maintain	C-NC	Momentary	C-NO
	3-4	4-5-6	5-6-7-8		C-NO		C-NC		C-NC
8	1-2	1-2-3	1-2-3-4	Momentary	C-NC	(None)		Maintain	C-NO
	3-4	4-5-6	5-6-7-8		C-NO	C-NC	C-NC		
9 <u>1/</u>	1-2	N/A	N/A	Momentary	C-NC	Momentary	C-NO	Maintain	C-NC
	3-4				C-NO		C-NC		C-NC

1/ Inactive for new design.

Reference Documents

- MIL-PRF-8805
- MIL-PRF-8805/4
- MIL-DTL-83731
- MS25081
- MS25082
- NASM 35333
- MIL-STD-202

The margins of this specification are marked with vertical lines to indicate where modifications from this amendment 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:
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC
(Project 5930-1783)