

INCH-POUND

MIL-PRF-8805 /74L
w/Amendment 1

1 March 2010

SUPERSEDING
MIL-PRF-8805 /74L
20 June 2006

PERFORMANCE SPECIFICATION SHEET

SWITCHES, SENSITIVE, SPDT, 4 AMPERES, HERMETIC SEAL

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

The complete requirements for acquiring the switch described herein shall consist of this specification and the latest issue of MIL-PRF-8805.

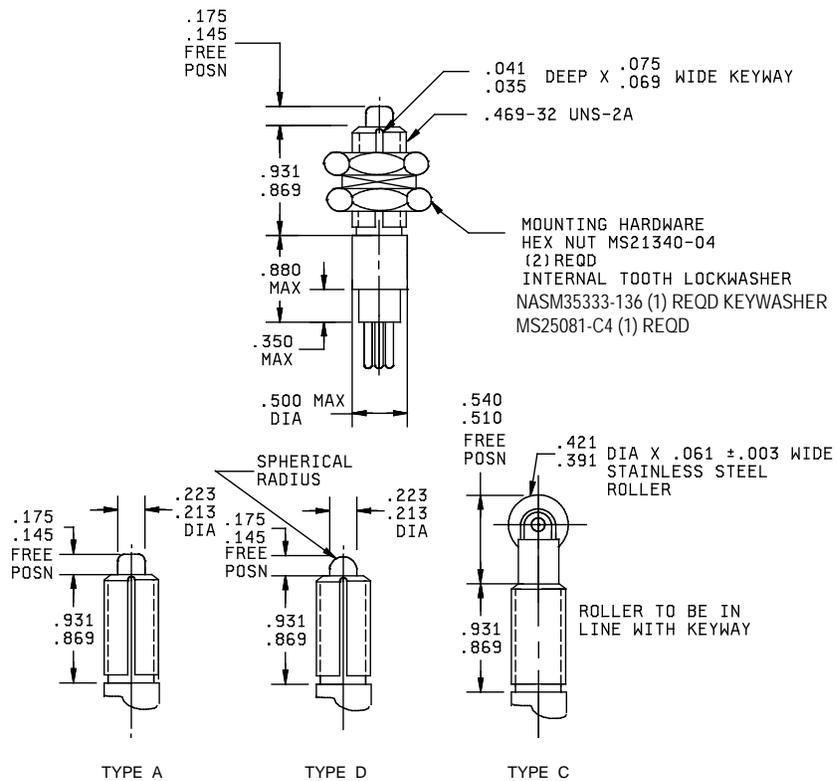
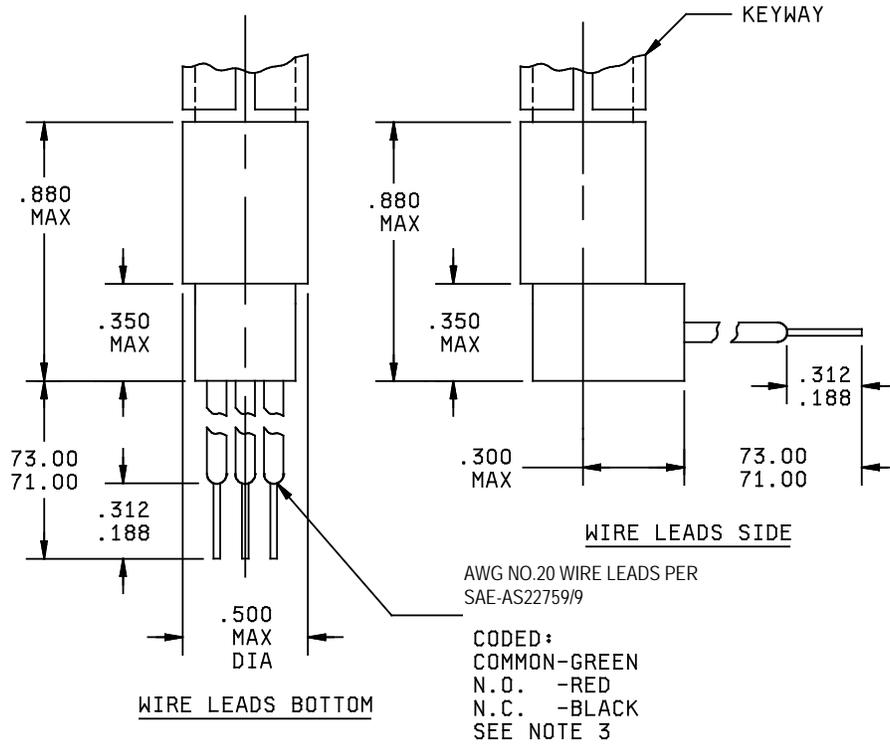


FIGURE 1. Dimensions and configuration



Inches	mm	Inches	mm	Inches	mm
0.003	.0762	0.213	5.410	0.510	12.954
0.035	.8890	0.223	5.664	0.540	13.716
0.041	1.041	0.300	7.620	0.869	22.073
0.061	1.549	0.312	7.924	0.880	22.352
0.069	1.752	0.350	8.890	0.931	23.647
0.075	1.905	0.391	9.931	71.00	1803.4
0.145	3.683	0.421	10.693	73.00	1854.2
0.175	4.445	0.469	11.913		
0.188	4.775	0.500	12.700		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Exact shape of switch is optional within dimensions specified.
4. Alternative base metals and protective finishes, as approved by the qualifying activity, may be utilized for lockwasher. Dimensions shall be in accordance with the referenced hardware.

FIGURE 1. Dimensions and configurations – continued.

REQUIREMENTS:

Dimensions and configurations: See figure 1.

Enclosure design: 5 (hermetic). Basic switch shall be hermetically sealed M8805/68-022 listed on QPL-8805. Resilient plunger seal.

Temperature characteristic: 2 (- 65°C to + 125°C).

Shock type: M (100 g, test condition I, method 213 of MIL-STD-202).

Vibration grade: 3 (10 Hz to 3,000 Hz swept sinusoidal).

Operating characteristics: see table II.

Actuating force: 6.5 pounds maximum.

Releasing force: 1.5 pound minimum.

Pretravel: .020 inch (0.51 mm) maximum

Movement differential: .005 inch (0.13 mm) maximum.

Overtravel: .125 inch (3.18 mm) minimum.

Contact resistance: .04 ohm + 0.011 ohm per lead per foot.

After electrical endurance: In accordance with MIL-PRF-8805, plus 0.011 ohm per lead per foot.

Dielectric withstanding voltage:

Sea level and 70,000 feet: 1,050 V rms (terminal to case), 800 V rms (terminal to terminal), 500 V rms after electrical life.

Mechanical endurance: 50,000 cycles.

Electrical endurance: 25,000 cycles

Intermediate current: 25,000 cycles.

Low level: 25,000 cycles.

Electrical ratings: see table III.

Short circuit: 20 times rated resistive load (SAE-AS33201; PIN MS3320-7 ½, or equivalent used for circuit protection).

Weight: 1.0 ounce plus 0.1 ounce per lead per foot.

Qualification:

Group submission: See table IV.

Military Part or Identifying Number (PIN): See tables I and V.

Table I. PINs and configuration.

PIN <u>1/</u>	Resistive load rating	Plunger seal	Type of actuating mechanism	Terminals
M8805/74-035	4 Amps	None	A	Wire leads – bottom
M8805/74-036	4 Amps		C	Wire leads – bottom
M8805/74-037	4 Amps		A	Wire leads – side
M8805/74-038	4 Amps		C	Wire leads – side
M8805/74-039	4 Amps	Resilient Seal	A	Wire leads – bottom
M8805/74-040	4 Amps		C	Wire leads – bottom
M8805/74-041	4 Amps		A	Wire leads – side
M8805/74-042	4 Amps		C	Wire leads – side
M8805/74-043	4 Amps	None	D	Wire leads – bottom
M8805/74-044	4 Amps		D	Wire leads – side
M8805/74-045	4 Amps	Resilient Seal	D	Wire leads – bottom
M8805/74-046	4 Amps		D	Wire leads – side

1/ PIN's M8805/74-001 through –034 have been canceled. See Table V for substitution information.

Table II. Operating characteristics.

Plunger seal	Actuating Force (maximum)	Releasing Force (minimum)	Movement Differential (maximum)	Pretravel Inches (maximum)	Overtravel (minimum)
Unsealed	30 ounces <u>1/</u>	4 ounces <u>1/</u>	.005 inch (0.13 mm)	.010 (0.25 mm)	.125 inch (3.18 mm)
Resilient	7.0 pounds	1.5 pounds	.005 inch (0.13 mm)	.020 (0.51 mm)	.125 inch (3.18 mm)

1/ At sea level and 70,000 feet.

Table III. Electrical ratings.

Load	Sea level and 70,000 feet (28 V dc) (amperes)
Resistive	4
Inductive	1
Lamp	2

Table IV. Qualification.

Inspection	Basic Switch	Other switch samples	Extent of approval
Qualification inspection table of MIL-PRF-8805, groups I through VI, inclusive	M8805/74-040 (all sample units)	M8805/74- 035 through -039, -041 through -046 (2 sample units each): Visual and mechanical inspection only	All

Table V. Substitution information for canceled PIN's 1/

Canceled PIN's M8805/74-		Substitute PIN's M8805/74-
004	023	035
006	024	036
007	025	037
009	026	038
013	027	039
015	028	040
016	029	041
018	030	042
019	031	043
020	032	044
021	033	045
022	034	046

1/ The canceled PIN's are no longer procurable. Substitute, PIN configurations are interchangeable and are rated at 4 amperes for 25,000 cycles.

Referenced documents:

MIL-PRF-8805
MIL-STD-202
SAE-AS22759/9
SAE-AS33201

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:

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

Preparing activity:

DLA - CC

(Project 5930-2010-011)

Review activities:

Army – AR, AV, MI
Navy – AS, MC, OS, SH
Air force – 19, 99

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/> .