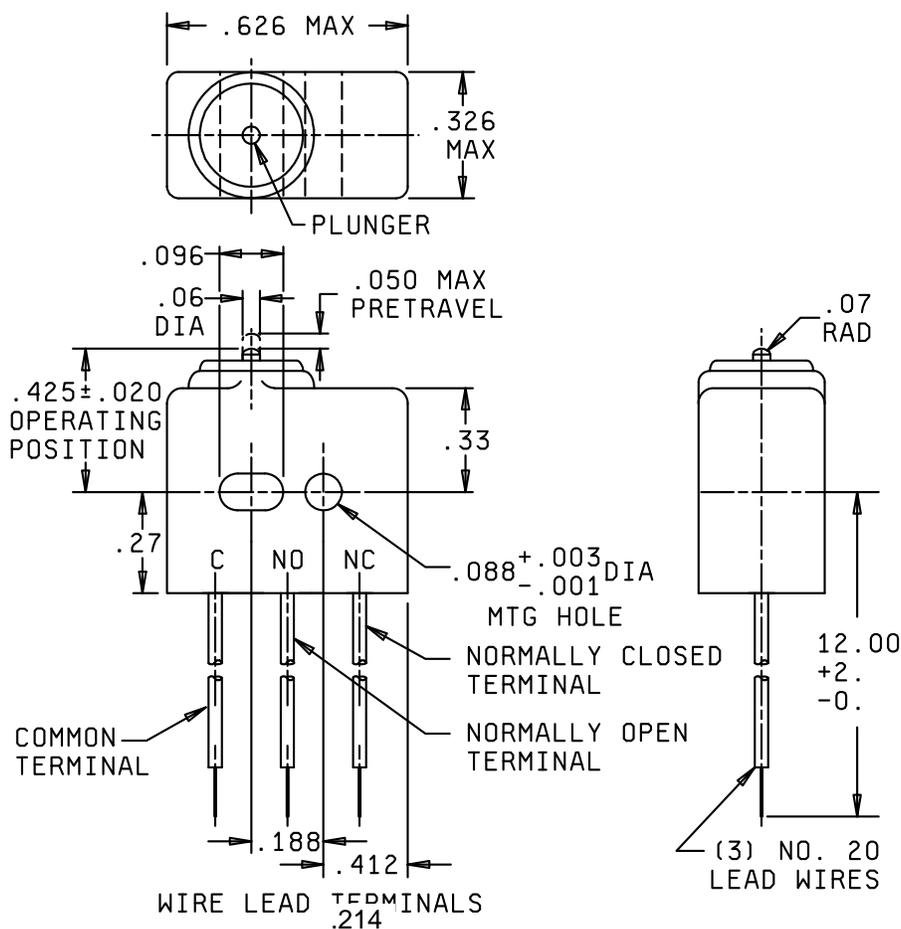


INCH-POUND  
MIL-PRF-8805/32J  
11 May 2010  
SUPERSEDING  
MIL-PRF-8805/32H  
25 June 2003

PERFORMANCE SPECIFICATION SHEET  
SWITCHES, SENSITIVE, SPDT, 7 AMPERES, WATERTIGHT

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

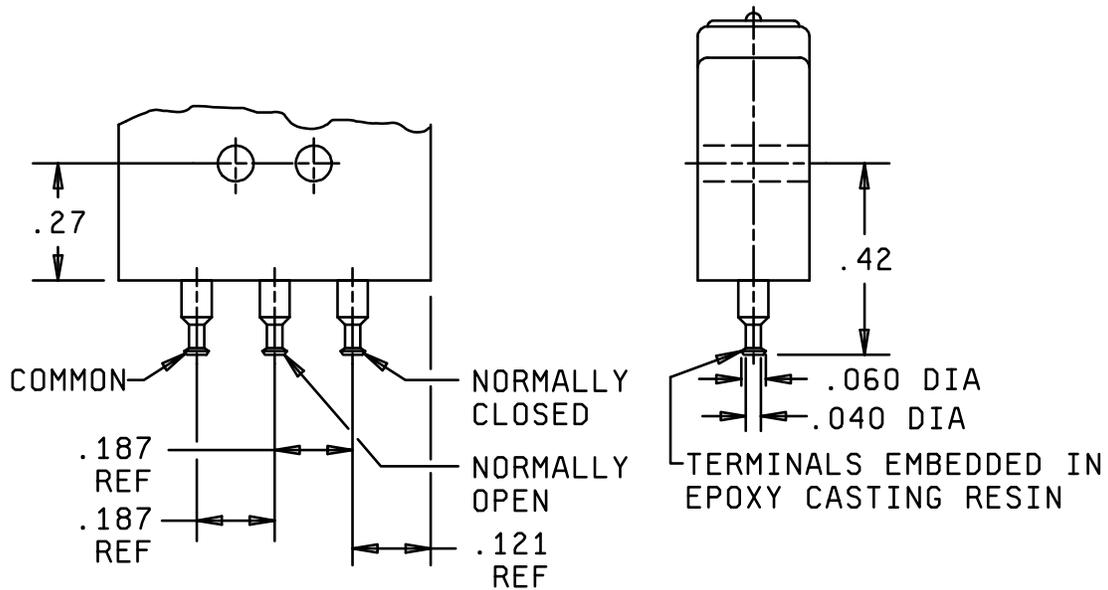
The requirements for acquiring the switches described herein shall consist of this specification sheet and MIL-PRF-8805.



MS27994-1,-2,-4 and -5

FIGURE 1. Dimensions and configurations.

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Turret terminals  
MS27994-3

Inches	mm	Inches	mm	Inches	mm
.001	0.03	.088	2.24	0.326	8.28
.003	0.08	.096	2.44	0.33	8.4
.020	0.51	.121	3.07	0.42	10.7
.040	1.02	.187	4.75	0.425	10.80
.050	1.27	.188	4.78	0.626	15.90
.06	1.52	.214	5.44	2.00	50.8
.07	1.78	.27	6.9	12.00	304.8

NOTES:

1. Dimensions are in inches.
2. Unless otherwise stated, tolerances are .02 (.5 mm) for two place decimals and  $\pm 0.005$  (.13 mm) for three place decimals.
3. Mounting holes will accept pins or screws of .087 (2.21 mm) maximum diameter on  $.188 \pm 0.002$  (4.78  $\pm 0.05$  mm) centers.
4. Exact shape of switch optional, provided dimensions specified are not exceeded.
5. Metric equivalents are given for general information only.

FIGURE 1. Dimensions and configurations (continued).

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REQUIREMENTS:

Dimensions and configurations: See figure 1.

Enclosure design: 3 watertight.

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

Shock type: M (100 g's).

Vibration grade: 2 (10 Hz to 2,000 Hz).

Weight:

MS27994-1, MS27994-2, MS27994-4, and MS27994-5: .030 pound maximum.

MS27994-3: .01 pound maximum.

Operating characteristics:

Actuating force: 17 ounces maximum.

Release force: 4 ounces minimum.

Movement differential: .005 inch maximum

Pretravel: .050 inch maximum.

Overtravel: .004 inch minimum.

Terminals:

MS27994-1 and MS27994-2: NEMA HP3, SAE-AS22759/11 or equivalent wire leads.

MS27994-3: When terminals are gold plated, the finish shall be a minimum of .000030 inch and a maximum of .000100 inch thick.

MS27994-4 and MS27994-5: SAE-AS22759/11 or equivalent wire leads.

Contact resistance:

MS27994-1, MS27994-3, and MS27994-4: Not applicable.

MS27994-2, and MS27994-5: 70 milliohms, maximum.

Dielectric withstanding voltage:

At atmospheric pressure: 1,000 V rms.

Altitude: 400 V rms at 50,000 feet. In qualification inspection table after electrical endurance, the dielectric withstanding voltage points of application between all unconnected terminals of the same pole is not applicable.

Mechanical endurance: 25,000 cycles.

Electrical endurance: 25,000 cycles.

Electrical ratings: See table I.

Part or identifying number (PIN): See table III. MS27994 has been cancelled and replaced by MIL-PRF-8805/32. The MS27994 military part identification numbers have been retained.

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Qualification:

Group submission:

Sample: The number of sample units for each PIN covered by this specification sheet shall be as specified in table II.

Test routine: The sample units shall be divided as specified in table II and subjected to the inspections indicated.

TABLE I. Electrical ratings.

PIN	Load	Sea level		50,000 feet 28 V dc
		28 V dc	115 V ac, 400 Hz	
MS27994-1, MS27994-3, MS27994-4, (Silver contacts)	Resistive	(Amperes) 7	(Amperes) 7	(Amperes) 7
	Inductive	4	4	2.5
	Motor	2.5	1.5	---
	Lamp	1	1	---
MS27994-2, MS27994-5, (Gold contacts)	Resistive	1	---	1
	Inductive	.5	---	.5

1/ MS27994-1 and MS27994-2 are inactive for new design.

TABLE II. Qualification inspection.

Switches for testing	Number of sample units	Examination or test	Extent of approval
MS27994-4	30	Complete qualification tables, as applicable, of MIL-PRF-8805	MS27994-1 and MS27994-4
MS27994-5	8	<u>Group I</u> Visual and mechanical examination Insulation resistance Operating characteristics	MS27994-2 and MS27994-5 <u>3/</u>
	8 from group I	<u>Group II</u> Overload cycling Electrical endurance <u>1/</u> At sea level Resistive load, dc Inductive load, dc At reduced barometric pressure Resistive load, dc Inductive load, dc Dielectric withstanding voltage <u>2/</u> Operating characteristics (all group II sample units)	

See footnotes at end of table.

TABLE II. Qualification inspection - continued.

Switches for testing	Number of sample units	Examination or test	Extent of approval
MS27994-3	2	<p style="text-align: center;"><u>Group I</u></p> Visual and mechanical examination Insulation resistance Operating characteristics Terminal strength Dielectric withstanding voltage Solderability	MS27994-3 <u>3/</u>

1/ Two sample units only.

2/ Seal level dielectric withstanding voltage test is to be conducted only on those units which were tested for sea level electrical endurance. Altitude dielectric withstanding voltage test is to be conducted on those units which were tested for altitude electrical endurance tests.

3/ Applies only if MS27994-4 is qualified.

TABLE III. PIN.

PIN	Contact	Termination
MS27994-1	Silver	Wire leads <u>1/</u>
MS27994-2	Gold filled or diffused	Wire leads <u>2/</u>
MS27994-3	Silver	Turret terminals
MS27994-4	Silver	Wire leads <u>3/</u>
MS27994-5	Gold filled or diffused	Wire leads <u>3/</u>

1/ NEMA HP3, MIL-W-22759/11 or equivalent wire leads. Inactive for new design. Use MS27994-4.

2/ NEMA HP3, MIL-W-22759/11 or equivalent wire leads. Inactive for new design. Use MS27994-5.

3/ SAE-AS22759/11 or equivalent wire leads.

Reference documents:

MIL-PRF-8805  
SAE-AS22759/11  
NEMA-HP3

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

Preparing activity:

DLA - CC

(Project 5930-2008-049)

Review activities:

Navy - AS

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/> .