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IN REPLY
REFER TO DSCC-VAT 1 July 2004

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Initial Draft of MIL-PRF-8805 /11J, /14F, /15G, /17G, /18G, /19F, /23G, /25F, /34E, /38G, /40H, /47G, /48H, /49H, /65D, /76H, /84E, /90F, /96E, /100F, /101K, /104C, /107C, /110D, and /114C. Project numbers 5930-1838 through -1863.

The drafts of the above subject documents are being sent to you for review and comments. These drafts consist o the following changes:

Updating of referenced documents.
Incorporation of amendments.

If these documents are of interest to you, please provide your comments electronically. This can be in the form of a return e-mail, with or without an attached text file. A 45-day coordination cycle from the date of this letter has been allotted. Please provide your comments within that time period. If no comments are received in the allotted 45 day coordination cycle, concurrence is assumed and all comments received after will be held to the first amendment. If an electronic response is not possible we will still accept comments via letter, facsimile or phone call but only after you have contacted the project officer listed below. The draft documents can be found at the following DSCC-VA web page:

www.dscc.dla.mil/Programs/MilSpec/initialdrafts.asp

This process still requires military departments to identify their comments as “Essential” or “Suggested”. Essential comments must be justified with supporting data. Military review activities should forward comments to their custodians or this office, as applicable, in sufficient time to allow for consolidating the department reply.

If there are any questions, please contact Mark Rush by the preferred method of E-Mail at Mark.Rush@dla.mil or by telephone at commercial 614-692-0550, DSN 850-0550; or by facsimile at 614-693-1644. Our mailing address as a last resort is Defense Supply Center, Columbus, DSCC-VAT, P.O. Box 3990, Columbus, OH 43216-5000. If you have further questions or concerns you may contact me at Kendall.Cottongim@dla.mil, by telephone at 614-692-0676 or by facsimile at 614-692-6939.

/ SIGNED /
KENDALL A. COTTONGIM
Chief
Electronics Components Team

NOTE: This draft, dated July 1, 2004 prepared by DLA-CC, has not been approved and is subject to modification. DO NOT USE PRIOR TO APPROVAL. (Project 5930-1849)

INCH-POUND
MIL-PRF-8805/40H
DRAFT

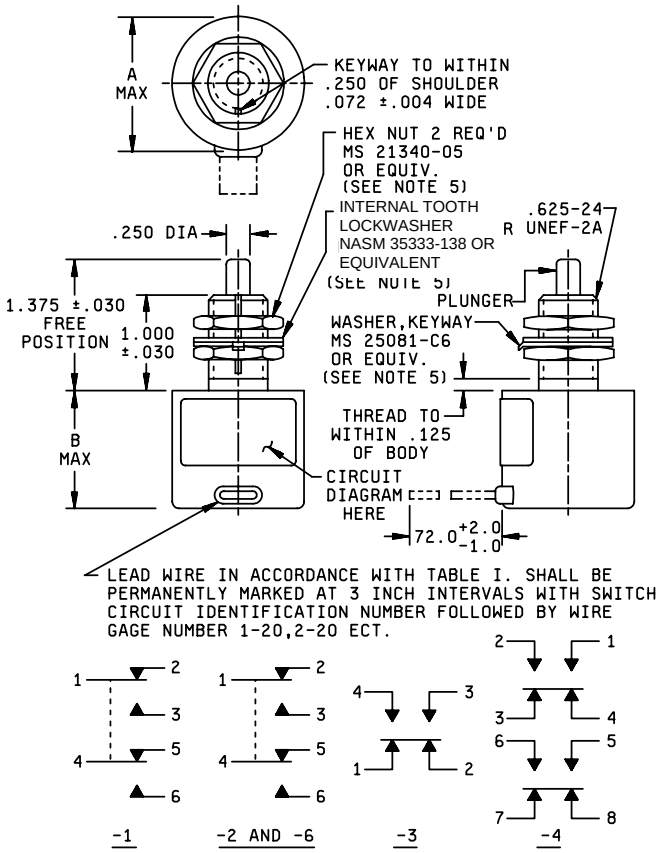
SUPERSEDING
MIL-PRF-8805/40G
3 September 1999

PERFORMANCE SPECIFICATION SHEET

SWITCHES, SENSITIVE, PLUNGER, RESILIENT SEAL, FLUID RESISTANT

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

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



Inches	mm
.004	0.10
.015	0.38
.017	0.43
.022	0.56
.030	0.76
.038	0.97
.072	1.83
.125	3.18
.250	6.35
.584	14.83
.625	15.88
.650	16.51
.870	22.10
1.000	25.40
1.375	34.93
2.0	50.80
72.0	1828.00

NOTES:

1. Dimensions are in inches.
2. Unless otherwise stated, tolerance is ±.010 (0.25 mm).
3. Metric equivalents are given for general information only.
4. Contour optional, provided maximum dimensions specified 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 keyway washer material. Dimensions shall be in accordance with the referenced hardware specifications.

FIGURE 1. Dimensions and configurations.

REQUIREMENTS:

Dimensions and configurations: See figure 1 and table I.

Enclosure design: 4 (resilient). 1/

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

Shock type: M (100 g's).

Vibration grade: 2 (10 to 500 Hz).

Maximum weight with leads:

MS24331-1: .46 pound.

MS24331-2: .77 pound.

MS24331-3: .62 pound.

MS24331-4: .84 pound.

MS24331-6: .60 pound.

Operating characteristics:

Actuating force: 9 ±3 pounds.

Full overtravel force: 30 pounds maximum.

Release force:

MS24331-1: 4 pounds minimum.

MS24331-2, MS24331-3, MS24331-4, and MS24331-6: 5 pounds minimum.

Note: MSMS 24331-1, 24331-2, MS24331-3, MS24331-4, and MS24331-6 were superseded by MIL-PRF-8805/40; the MS24331 Part Numbers (PINS) were retained.

Pretravel: .070 inch maximum.

Movement differential:

MS24331-1: .020 inch maximum.

MS24331-2, MS24331-3, and MS24331-6: .035 inch maximum.

MS24331-4: .045 inch maximum.

Overtravel: .250 inch minimum.

Coincidence of operating and releasing points: All circuits shall transfer within .010 inch of plunger travel after first circuit transfers..

Strength of actuating means: 30 pounds.

Finish: Switch housing shall be processed to resist corrosion.

Contact resistance: Not applicable.

1/ All entrances to the switch cavity except through the actuator bushing shall be sealed by fusion of glass-to-metal, metal-to-metal, or ceramic-to-metal and the lead wires shall be potted to provide stress relief.

Dielectric withstanding voltage:

At atmospheric pressure: 1,000 V rms.

At reduced barometric pressure: 50,000 feet; 400 V rms.

Following electrical endurance: Points of application between all unconnected terminals of the sample pole - not applicable.

Mechanical endurance: 25,000 cycles.

Electrical endurance: 25,000 cycles.

Electrical ratings: See table II.

Fluid resistance: Except for the cut end of the lead wire, switches shall be submerged in each of the following fluids for 2 minutes to 2 minutes 30 seconds, which shall consist of one cycle (one cycle is 10 minutes to 12 minutes 30 seconds total). Each switch shall be subjected to three cycles.

a. Turbine fuel (MIL-DTL-5624).

b. Hydraulic fluid (SAE AS1241A).

c. Coolanol (FSN 9150-551-4022).

d. Ethylene glycol (ASTM E-1119-92).

e. Lubricating oil (MIL-PRF-7808).

After each immersion, the excess fluid shall be blown off the external surfaces of the switch with an air jet. Following the third cycle, the switch shall be subjected to and shall meet the requirements for dielectric withstanding voltage, insulation resistance, operating characteristics, and seal tests.

Part number: See table I.

Qualification inspection:

Group submission: See table III.

Group A inspection:

Seal test: Only watertight test shall be performed.

TABLE I. Part number and characteristics.

Part number	Diameter maximum		Lead wires	
	A	B	Size	No. Req'd
MS24331-1	1.015 (25.78)	.980 (24.89)	No. 20	6
MS24331-2 1/	1.515 (38.48)	1.500 (38.10	No. 18	6
MS24331-3	1.515 (38.48)	1.310 (33.27)	No. 18	4
MS24331-4	1.515 (38.48)	1.700 (43.18)	No. 18	8
MS24331-6	1.015 (25.78)	1.000 (25.40)	No. 18	6

1/ Inactive for new design.

Note: MSMS 24331-1, 24331-2, MS24331-3, MS24331-4, and MS24331-6 were superseded by MIL-PRF-8805/40; the MS24331 Part Numbers (PINS) were retained.

TABLE II. Electrical ratings.

Load	Sea level 28 V dc (amperes)				50,000 feet 28 V dc (amperes)			
	-1	-2, -6	-3	-4	-1	-2, -6	-3	-4
Resistive	4	10	15	15	4	10	15	15
Inductive	2	3	10	10	2	3	10	10
Motor	4	6	5	5	4 1/	6 1/	5 1/	5 1/

1/ Application information only.

TABLE III. Qualification inspection (group submission).

Examination or test	Samples	Extent of Approval
Qualification inspection table of MIL-PRF-8805 1/	MS24331-1 (24 units)	All
Visual and mechanical examination Group II and V Group VII	MS24331-2, MS-24331-3, MS24331-4, and MS24331-6 (2 units each) MS24331-3, MS24331-6 (10 units each)	

1/ Two sample units shall be tested for fluid resistance following visual and mechanical examination of group I.

NOTE: Part number MS24331-5, covered by MIL-PRF-8805/40A, is canceled. For future procurement use part number MS24331-1.

Referenced Documents:

MIL-DTL5642
MIL-PRF-7808
MIL-PRF-8805
MS21340
MS24331
MS25081
NASM 35333
ASTM E1119
SAE-AS1241

Custodians:
Air Force - 11
Army - CR
DLA - CC
Navy - EC

Preparing activity:
DLA - CC

(Project 5930-1849)

Review activities:
Air Force - 19, 99
Army - AR, AV, MI
Navy - AS, MC, OS

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 www.dodssp.daps.mil.