INCH-POUND
MIL-DTL-3950/14A
25 April 2003
SUPERSEDING
MIL-S-3950/14
9 March 1988

DETAIL SPECIFICATION SHEET

SWITCHES, TOGGLE, ROCKER ACTUATED, ONE POLE, TWO POLE, FOUR POLE, ENVIRONMENTALLY SEALED, FLUSH AND SUB-PANEL MOUNTING

This specification 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-DTL-3950.

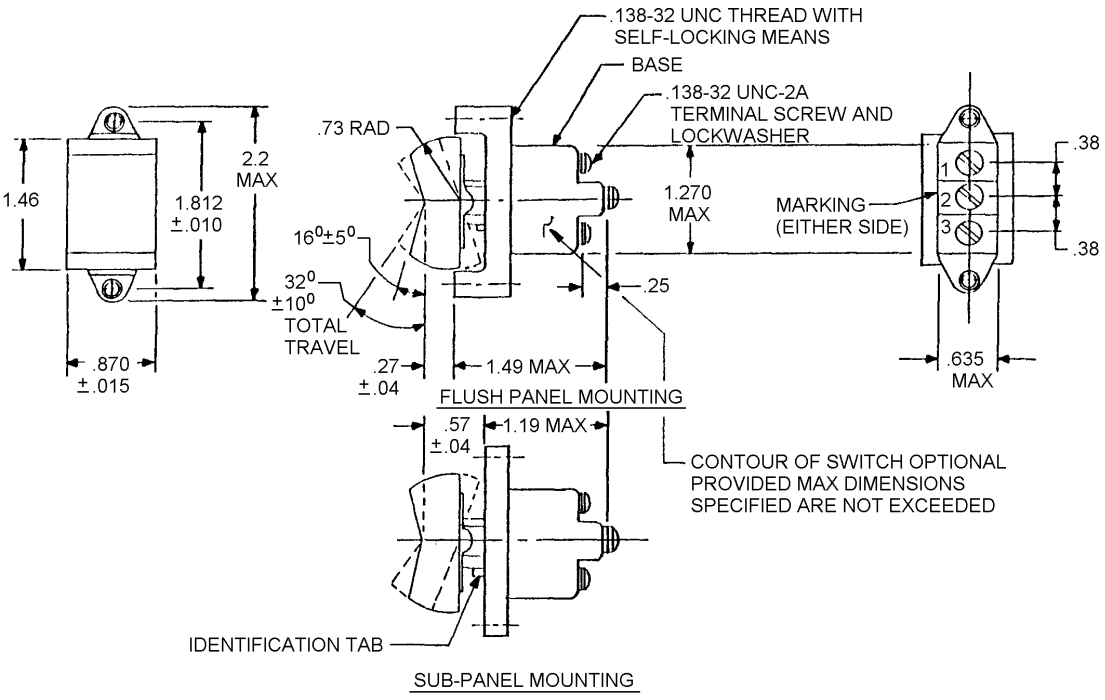

FIGURE 1. One pole switch

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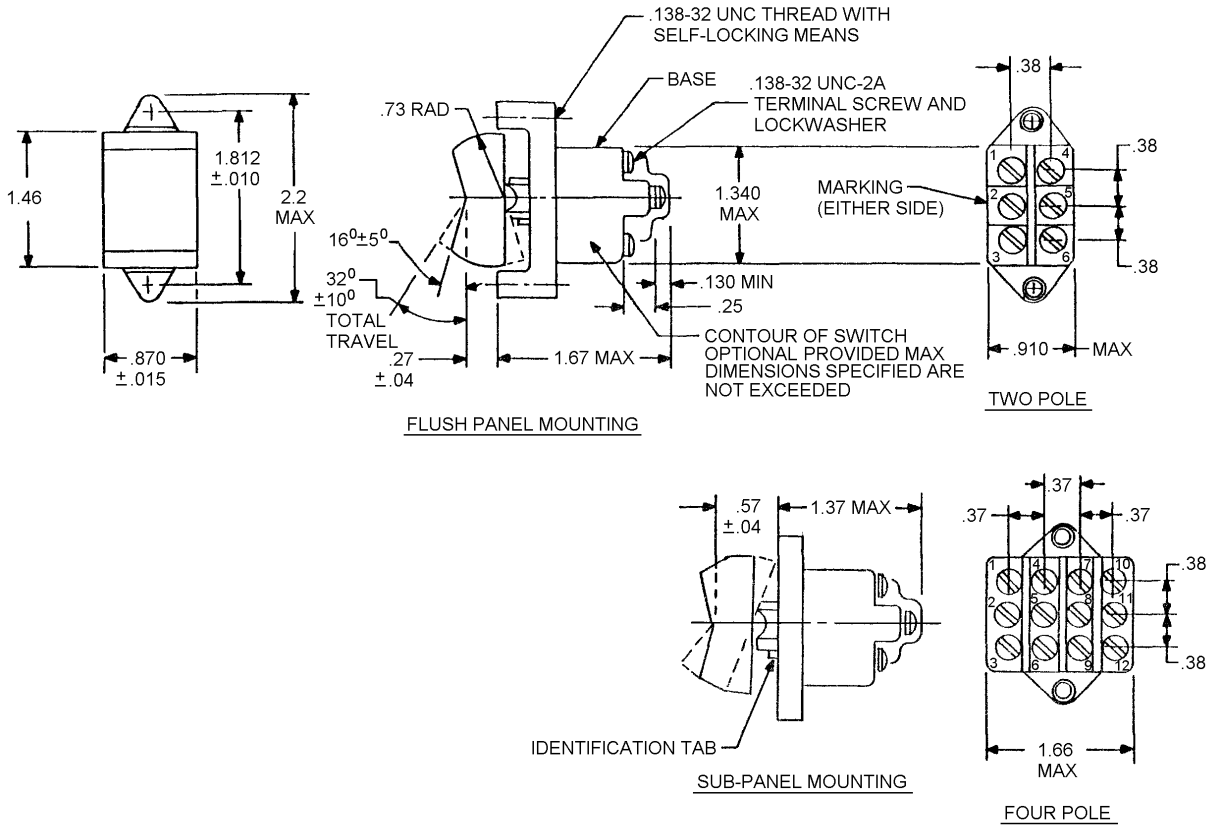

Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
.005	.13	.030	.76	.250	6.35	.530	13.46	.870	22.10	1.270	32.26	1.640	41.66
.010	.25	.040	1.02	.270	6.86	.570	14.48	.910	23.11	1.340	34.04	1.660	42.16
.015	.38	.138	3.51	.370	9.40	.635	16.13	.940	23.88	1.460	37.08	1.812	46.02
.020	.51	.150	3.81	.380	9.65	.730	18.54	1.160	29.46	1.510	38.35	2.200	55.88

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± .02 (0.51 mm) for two place decimals and ± .005 (0.13 mm) for three place decimals.
4. For terminal screw details see MIL-DTL-3950 appendix.
5. Thread length and hole depth should be such that screws will not bottom when tightened.
6. Direction of internal mechanism movement is opposite to direction of rocker movement.

FIGURE 2. Two and four pole switch.

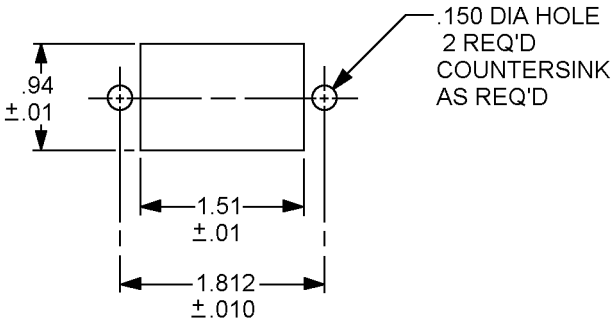

FIGURE 3. Panel cutout.

REQUIREMENTS:

Dimensions and configuration: See figures 1, 2, and 3.

Strength of toggle lever, pivot, and lever stop:

The switch shall operate mechanically and electrically at a maximum load of 6 volts dc, 100 milliamperes after the following test:

a. A 25-pound load shall be applied to the rocker button for one minute under each of the following conditions:

(1) Perpendicular to the face of the rocker button near the .73R (see figures 1 and 2). Load to be applied toward the base.

(2) Coaxial with centerlines of the switch. Load to be applied toward the base.

Strength of mounting means:

Switches shall be mounted on a metal panel using normal mounting means and hardware. A torque of 5 pound-inches shall then be applied to the mounted switch body. When switches are tested as specified, there shall be no loosening of mounting hardware or other mechanical damage.

Mechanical endurance: Temperature extremes, -55°C + 0°C, -4°C to +71°C +4°C, -0°C.

Thermal shock: Temperature extremes, -55°C + 0°C, -4°C to +71°C +4°C, -0°C.

Weight:

One pole: .10 pound maximum.
Two pole: .15 pound maximum.
Four pole: .22 pound maximum.

Qualification: The strength of mounting means test shall be substituted in place of the strength of mounting bushing test in the inspection sequence.

Group submission: The basic switches (to be submitted to all applicable tests) are M3950/14C35F1W and M3950/14C23S2R. In addition, the following additional switches shall be submitted to examination of product and switching characteristics:

M3950/14A27F1B
M3950/14B28S1C

TABLE I. Circuit code and electrical ratings for one pole switches.

Circuit code number	Circuit with rocker in			Current capacity (amperes) 28 volts dc			Current capacity (amperes) 115 volts, 60 and 400 hertz ac		
	Identification tab side	Center	Opposite identification tab side	Lamp-load circuit	Resistive circuit	Inductive circuit	Lamp-load circuit	Resistive circuit	Inductive circuit
-21	1-2 ON	OFF	2-3 ON	5	20	15	3	15	10
-22	OFF	NONE	2-3 ON						
-23	1-2 ON	NONE	2-3 ON						
-24	NONE	OFF	2-3 ON						
-25	NONE	MOM OFF	2-3 ON	4	15	10	2	15	7
-26	1-2 MOM ON	NONE	2-3 ON						
-27	1-2 MOM ON	OFF	2-3 MOM ON						
-28	1-2 MOM ON	OFF	NONE						
-29	MOM OFF	NONE	2-3 ON						
-30	1-2 MOM ON	NONE	OFF						
-31	1-2 MOM ON	OFF	2-3 ON						
-32	NONE	ON 1-2	2-3 MOM ON						
-33	NONE	ON 1-2	ON	5	20	15	3	15	10

TABLE II. Circuit code and electrical ratings for two pole switches.

Circuit code number	Circuit with rocker in			Current capacity (amperes) 28 volts dc			Current capacity (amperes) 115 volts, 60 and 400 hertz ac		
	Identification tab side	Center	Opposite identification tab side	Lamp-load circuit	Resistive circuit	Inductive circuit	Lamp-load circuit	Resistive circuit	Inductive circuit
-21	1-2 ON 4-5	OFF	2-3 ON 5-6	7	20	15	4	15	15
-22	OFF	NONE	2-3 ON 5-6						
-23	1-2 ON 4-5	NONE	2-3 ON 5-6						
-24	NONE	OFF	2-3 ON 5-6						
-25	NONE	MOM OFF	2-3 ON 5-6	5	18	10	2	11	8
-26	1-2 MOM ON 4-5	NONE	2-3 ON 5-6						
-27	1-2 MOM ON 4-5	OFF	2-3 MOM ON 5-6						
-28	1-2 MOM ON 4-5	OFF	NONE						
-29	MOM OFF	NONE	2-3 ON 5-6						
-30	1-2 MOM ON 4-5	NONE	OFF						
-31	1-2 MOM ON 4-5	OFF	2-3 ON 5-6						
-32	NONE	1-2 on 4-5	2-3 MOM ON 5-6						
-33	NONE	1-2 ON 4-5	2-3 ON 5-6	7	20	15	4	15	215
-34	1-2 ON 4-5	1-2 ON 4-5	2-3 ON 5-6						

TABLE III. Circuit code and electrical ratings for four pole switches.

Circuit code number	Circuit with rocker in			Current capacity (amperes) 28 volts dc			Current capacity (amperes) 115 volts, 60 and 400 hertz ac		
	Identification tab side	Center	Opposite identification tab side	Lamp-load circuit	Resistive circuit	Inductive circuit	Lamp-load circuit	Resistive circuit	Inductive circuit
-21	1-2 7-8 ON 4-5 10-11	OFF	2-3 8-9 ON 5-6 11-12	5	20	12	4	15	15
-22	OFF	NONE	2-3 8-9 ON 5-6 11-12						
-23	1-2 7-8 ON 4-5 10-11	NONE	2-3 8-9 ON 5-6 11-12						
-24	NONE	OFF	2-3 8-9 ON 5-6 11-12						
-25	NONE	MOM OFF	2-3 8-9 ON 5-6 11-12	4	18	10	2	11	8
-26	1-2 7-8 MOM ON 4-5 10-11	NONE	2-3 8-9 ON 5-6 11-12						
-27	1-2 7-8 MOM ON 4-5 10-11	OFF	2-3 8-9 MOM ON 5-6 11-12						
-28	1-2 7-8 MOM ON 4-5 10-11	OFF	NONE						
-29	MOM OFF	NONE	2-3 8-9 ON 5-6 11-12						
-30	1-2 7-8 MOM ON 4-5 10-11	NONE	OFF						
-31	1-2 7-8 MOM ON 4-5 10-11	OFF	2-3 8-9 ON 5-6 11-12						
-32	NONE	1-2 7-8 ON 4-5 10-11	2-3 8-9 MOM ON 5-6 11-12						
-33	NONE	1-2 7-8 ON 4-5 10-11	2-3 8-9 ON 5-6 11-12	5	20	12	4	15	15
-34	1-2 7-8 ON 4-5 10-11	2-3 7-8 ON 4-5 11-12	2-3 8-9 ON 5-6 11-12						
-35	1-2 7-8 ON 4-5 10-11	2-3 7-8 ON 4-5 11-12	2-3 8-9 ON 5-6 11-12	4	18	10	2	11	8
-36	1-2 7-8 ON 4-5 10-11	2-3 7-8 ON 4-5 11-12	2-3 8-9 MOM ON 5-6 11-12						

TABLE IV. Frame, rocker, rocker color selection table.

Frame		Rocker		Rocker color	
Style	Code letter	Style	Code number	Color	Code letter
Flush panel	F	Smooth	1	White opaque Red opaque Black opaque Translucent white Colorless (transparent) 1/	W R B T C
Sub panel	S	Serrated	2		

1/ A printed legend insert or decal can be located inside of rocker button. Recommend size of insert is .750 +.000, -.010 by 1.100 +.000, -.010. Legend insert is not furnished as part of switch.

Military Part or Identifying Number (PIN): The PIN shall consist of the prefix M3950/14, followed in order by the appropriate alpha letter designating poles, two digit circuit code number, and the code letter or number for the frame style, rocker style, and rocker color as shown in the following example:

M	3950/14	X	XX	X	X	X
Military designation						
	Specification sheet number					
		A = one pole B = two pole C = four pole				
			Appropriate two digit circuit type number from tables I, II, or III			
				Appropriate frame style code letter from table IV		
					Appropriate rocker style code number from table IV	
						Appropriate rocker color code letter from table IV

Example: M3950/14A35F1W

Custodians:
Army - CR
Navy – AS
Air Force – 11
DLA - CC

Review activities:
Air Force – 99
Army – AR, AV, MI
Navy – EC, MC

Preparing activity:
DLA - CC

(Project 5930-1733)