

INCH-POUND

MIL-PRF-8805/110C

3 September 1999

SUPERSEDING

MIL-S-8805/110B

17 April 1991

PERFORMANCE SPECIFICATION SHEET

SWITCHES, PUSHBUTTON, MOMENTARY, 5 AMPERES  
AND LOW LEVEL, MINIATURE, DUSTTIGHT OR WATERTIGHT

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-PRF-8805

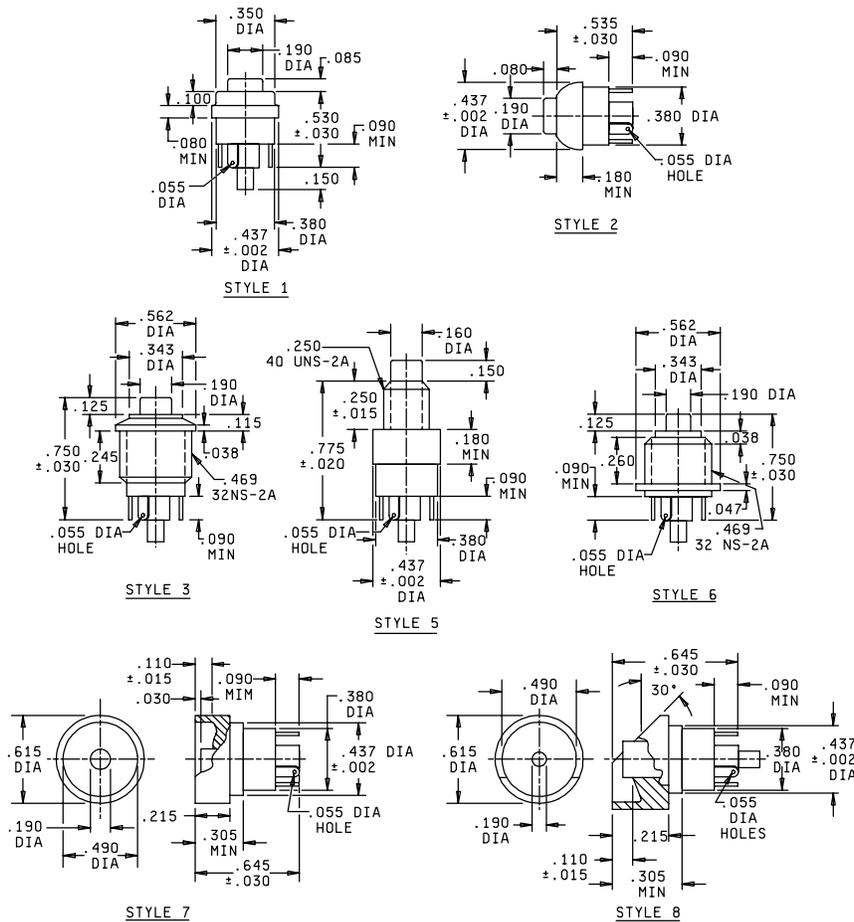


FIGURE 1. Configuration and dimensions.

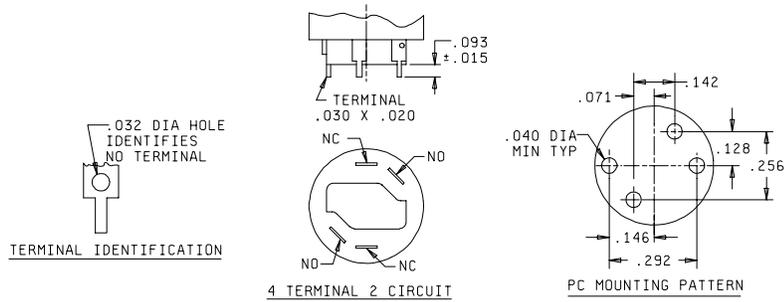
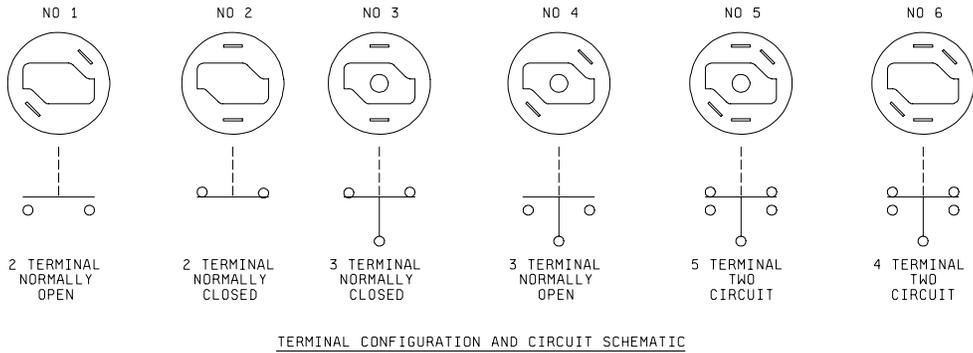
Inches	mm	Inches	mm	Inches	mm
.002	0.05	.115	2.92	.350	8.89
.015	0.38	.125	3.18	.380	9.65
.020	0.51	.150	3.81	.437	11.10
.030	0.76	.160	4.06	.469	11.91
.038	0.97	.180	4.57	.490	12.45
.047	1.19	.190	4.83	.530	13.46
.055	1.40	.215	5.46	.535	13.59
.080	2.03	.245	6.22	.562	14.27
.085	2.16	.250	6.35	.615	15.62
.090	2.29	.260	6.60	.645	16.38
.100	2.54	.305	8.38	.750	19.05
.110	2.79	.343	8.71	.775	19.69

NOTES:

1. Dimensions are in inches.
2. Unless otherwise specified, tolerances are  $\pm 0.015$  (0.38 mm).
3. Metric equivalents are given for general information only.
4. Styles 3, 5, and 6 are panel mounted.
5. Mounting thread .469-32NS-02A applies to styles 3 and 6, and shall be furnished with one each mounting nut MS25082-B21 or equivalent and lockwasher MS35333-136 or equivalent. Alternative base metals and protective finishes, as approved by the qualifying activity, may be utilized for hardware material.
6. Mounting thread .250-40UNS-2A applies to style 5, and shall be furnished with one each mounting nut MS25082-B14 or equivalent and lockwasher MS35333-135 or equivalent. Alternative base metals and protective finishes, as approved by the qualifying activity, may be utilized for hardware material.

FIGURE 1. Configuration and dimensions - Continued.

MIL-PRF-8805/110C



FOR SOLDER TERMINATION

Normally open (N.O.): Round ended terminal  
Normally closed (N.C.): Square ended terminal

FOR PRINTED CIRCUIT (PC) TERMINATION

Inches	mm	Inches	mm
.015	0.38	.093	2.36
.020	0.51	.128	3.25
.030	0.76	.142	3.61
.032	0.81	.146	3.71
.040	1.02	.256	6.50
.071	1.80	.292	7.42

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are  $\pm 0.015$  (0.38 mm).
4. For solder termination, all circuit schematics are available.
5. For PC termination, circuit schematics 1, 2, and 6 are available.

FIGURE 2. Terminal configuration.

MIL-PRF-8805/110C

REQUIREMENTS:

Dimensions and configurations: See figures 1 and 2.

Enclosure design: 2 (dusttight) or 3 (watertight).

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

Shock type: M (100 g's).

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

Weight: .030 pound maximum.

Dielectric withstanding voltage: 1,050 V rms.

After electrical endurance: Between all terminals and mounting plate only.

Operating characteristics:

Actuating force: 27 ±8 ounces, 20 percent variation from specified values acceptable after test.

Total travel: .080 inch maximum.

Strength of actuator: 10 pounds.

Sand and dust: Applicable.

Terminal strength: 5 pounds, all directions.

Mechanical endurance: 100,000 cycles.

Electrical endurance: 50,000 cycles. Electrical ratings, see table I.

TABLE I. Electrical ratings.  
Circuit schematics 1, 2, and 6

Load	Sea level				50,000 feet			
	28 V dc		115 V ac, 60 Hz		28 V dc		115 V ac, 60 Hz	
	NO or NC (amperes)	2 circuit 1/ (amperes)						
Resistive	5	4	5	4	5	4	5	4
Inductive	3	2	3	2	3	2	3	2
Motor	3	---	3	---	---	---	---	---
Lamp	1	---	1	---	---	---	---	---

1/ Independent loads connected to each throw.

MIL-PRF-8805/110C

TABLE II. Electrical ratings.  
Circuit schematics 3, 4, and 5

Load	Sea level				50,000 feet			
	28 V dc		115 V ac, 60 Hz		28 V dc		115 V ac, 60 Hz	
	NO or NC (amperes)	2 circuit <u>1/</u> (amperes)						
Resistive	2.5	2	2.5	2	2.5	2	2.5	2
Inductive	1.5	1	1.5	1	1.5	1	1.5	1
Motor	1.5	---	1.5	---	---	---	---	---
Lamp	.5	---	.5	---	---	---	---	---

1/ Independent loads connected to each throw.

Intermediate current: Applicable 50,000 cycles.

Low level circuit: 25,000 cycles (applicable when specified, see table III).

Logic level circuit: Applicable to electrical rating codes 4, 5, 6, and 8 (see table III).

Part or Identifying Number (PIN): See table III.

TABLE III. PIN number and characteristics.

Case style <u>1/</u>	Terminal type/ <u>2/</u> electrical rating and seal	Circuit schematic <u>3/ 4/</u>	Button color
1. Style 1	1. Solder/power circuit/dusttight	1. 2 Term N.O.	1. Red
2. Style 2	2. Solder/power circuit/watertight	2. 2 Term N.C.	2. Black
3. Style 3	3. PC/power circuit/dusttight <u>5/</u>	3. 3 Term N.C.	3. Orange
5. Style 5	4. Solder/low level/dusttight	4. 3 Term N.O.	4. Yellow
6. Style 6	5. Solder/low level/watertight	5. 5 Term two ckt	5. Green
7. Style 7	6. PC/low level/dusttight <u>5/</u>	6. 4 Term two ckt	6. Blue
8. Style 8	7. PC/power circuit/watertight <u>5/</u>		7. Violet
	8. PC/low level/watertight <u>5/</u>		8. Gray
			9. White

1/ See figure 1 for case styles.

2/ For group A and incoming inspection, low level switches shall not be subjected to loads greater than 10 milliamperes at an open circuit voltage of 30 millivolts maximum dc or peak ac.

3/ See figure 2 for circuit schematic identification.

4/ Printed circuit board termination applies to circuit schematics 1, 2, and 6 only.

5/ Not available in circuit schematics 3, 4, and 5.

MIL-PRF-8805/110C

PIN:

Specification  
sheet number

M8805/110-                      dash number

<u>7</u>	<u>4</u>	<u>1</u>	<u>2</u>
Case style	Terminal type/Electrical rating	Circuit schematic	Button color

Example:

M8805/110-7412 designates a switch of case style 7, with solder termination, low level electrical rating, that is dusttight and has a 2 terminal normally open circuit and a black button.

TABLE IV. Qualification inspection.

Inspection	Basic switch	Other switch samples	Extent of approval	
Qualification inspection table of MIL-PRF-8805	Required sample units of the 4 terminal two circuit configuration	Required number of sample units of 3 terminal N.O. or 3 terminal N.C. (groups VII and X tests, qualification inspection table, MIL-PRF-8805)	All	In addition, 2 sample units of each of the other configurations shown on this specification sheet shall be submitted to visual and mechanical inspection.

Custodian:  
Navy - EC  
DLA - CC

Preparing activity:  
DLA - CC

(Project 5930-N780)