

PERFORMANCE SPECIFICATION SHEET

SWITCHES, SENSITIVE, 2 CIRCUIT (5 AMPERES) OR SPST (8 AMPERES),
UNSEALED, LOW LEVEL SWITCHING, FORM C OR FORM Z

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.

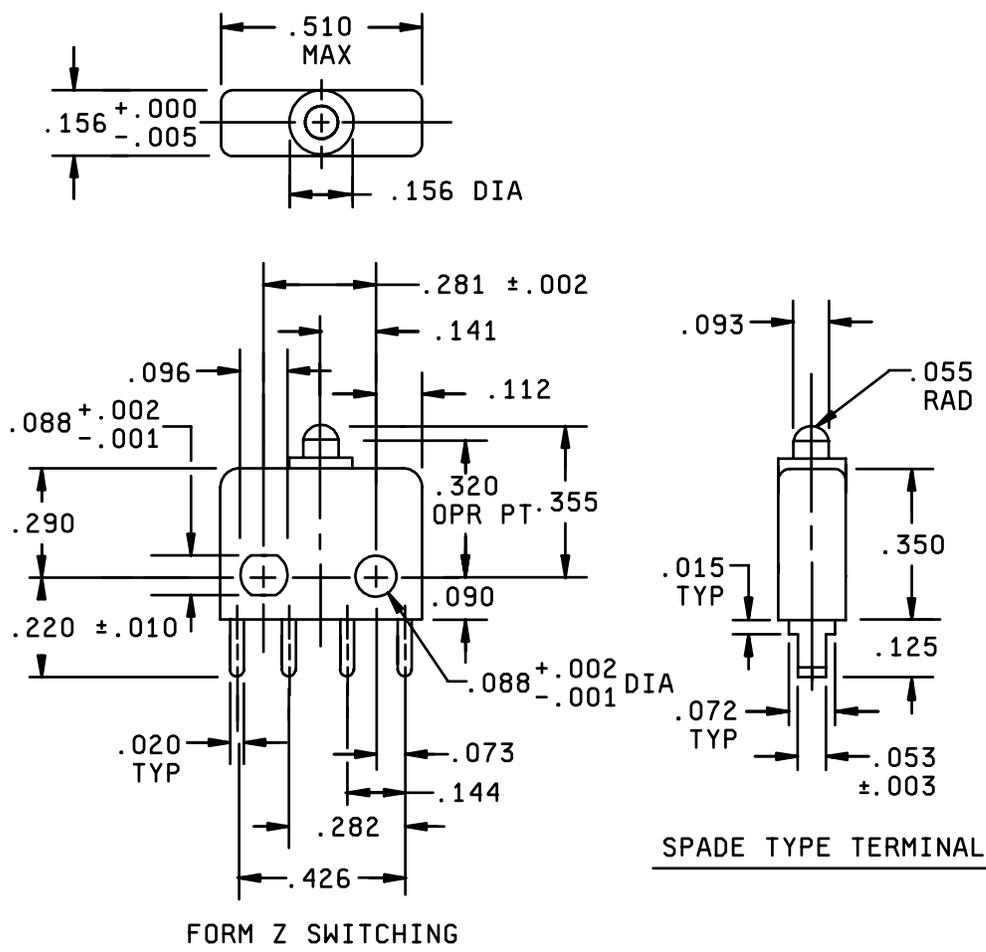
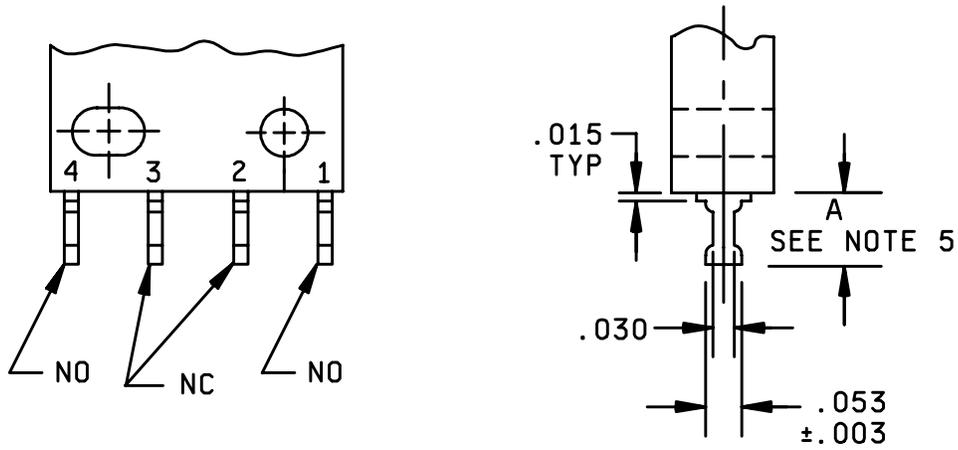
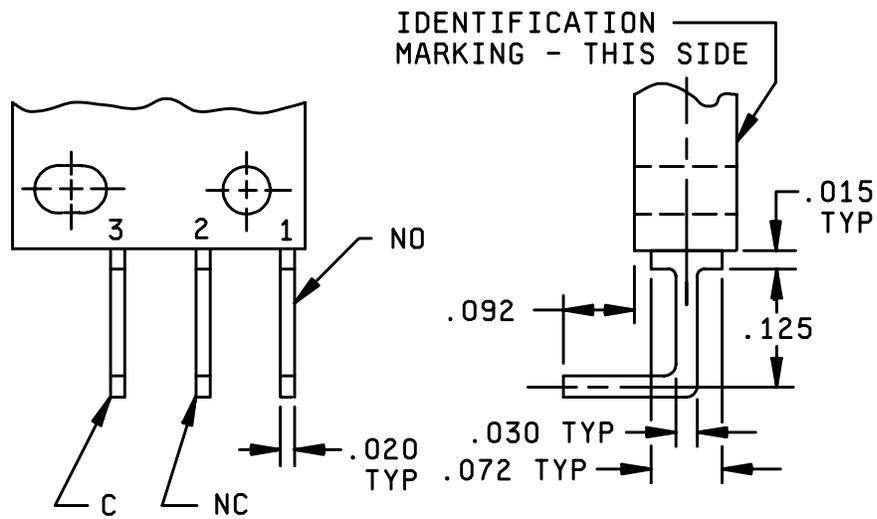


FIGURE 1. Dimensions and configurations.



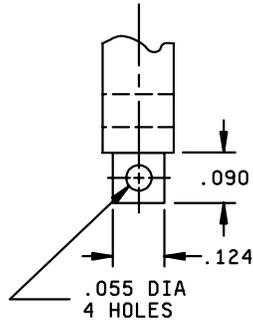
TURRET TYPE TERMINAL
FORM Z SWITCHING



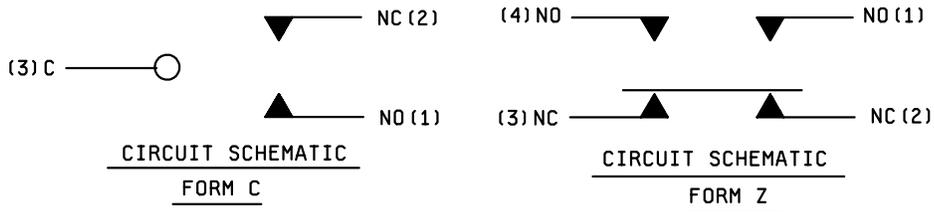
PRINTED CIRCUIT TERMINAL
FORM C SWITCHING

FIGURE 1. Dimensions and configurations - Continued.

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SOLDER LUG TERMINAL



Inches	mm	Inches	mm	Inches	mm	Inches	mm
.001	0.03	.053	1.35	.096	2.44	.220	5.59
.002	0.05	.055	1.40	.112	2.84	.281	7.14
.003	0.08	.072	1.83	.124	3.14	.282	7.16
.005	0.13	.073	1.85	.125	3.18	.290	7.37
.010	0.25	.088	2.24	.141	3.58	.320	8.13
.015	0.38	.090	2.29	.144	3.66	.350	8.89
.020	0.51	.092	2.34	.156	3.96	.355	9.02
.030	0.76	.093	2.36	.187	4.75	.426	10.82
						.510	12.95

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ± 0.015 (0.38 mm).
4. Terminal pattern is the same on form C switches as on form Z, except terminal four is not provided.
5. Dimension "A" is .125 (3.18 mm) or .187 (4.75 mm), as defined by the Part or Identifying Number (PIN).
6. Terminal marking may be on bottom of switch.

FIGURE 1 Dimensions and configurations - Continued.

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REQUIREMENTS:

Dimensions and configuration: See figure 1.

Enclosure design: 1 (Unsealed).

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

Shock type: M(100 g).

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

Weight: .003 pound maximum.

Operating characteristics (± 20 percent variation from specified values acceptable after test):

Actuating force: 8 ounces maximum.

Overtravel: .004 inch minimum.

Movement differential: $.018 \pm .008$ inch.

Operating point: $.320 \pm .015$ inch (see figure 1).

Strength of actuator: 10 pounds.

Terminal strength: 5 pounds, all directions.

Intermediate current: Applicable. See Table III.

Low level circuit: 50,000 cycles. See Table III.

Mechanical endurance: 1,000,000 cycles (cycle rate 300 cpm permissible).

Electrical endurance: 50,000 cycles.

Electrical ratings: See tables I and II.

Dielectric withstanding voltage: See table III.

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

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TABLE I. Electrical ratings – Intermediate Current.

Load	Sea level, 28 V dc		Altitude <u>1/</u> , 28 V dc	
	NO or NC <u>2/</u> Form Z (amperes)	2 circuit <u>3/</u> Form Z (amperes)	NO or NC <u>2/</u> Form Z (amperes)	2 circuit <u>3/</u> Form Z (amperes)
Resistive	8	5	8	5
Inductive	5	3	3	2
Motor	5	---	---	---
Lamp	1	---	---	---
	NO or NC <u>2/</u> Form C (amperes)		NO or NC <u>2/</u> Form C (amperes)	
	NO or NC <u>2/</u> Form C (amperes)	2 circuit <u>3/</u> Form C (amperes)	NO or NC <u>2/</u> Form C (amperes)	2 circuit <u>3/</u> Form C (amperes)
Resistive	8	5	8	5
Inductive	3.5	2.5	2	1.5
Motor	5	---	---	---
Lamp	1	---	---	---

1/ 80,000 feet for PIN's M8805/101-001 through -005, and -023.

70,000 feet for PIN's M8805/101-007 through -021, -025, and -027.

2/ Either NO or NC side loaded.

3/ Both NO and NC side loaded.

TABLE II. Electrical ratings – Low Level/Logic Level.

Load	28 V dc Sea level	28 V dc Altitude <u>1/</u>
	Form Z (amperes)	Form Z (amperes)
Resistive	5	5
Inductive	3	3
	Form C	Form C
	(amperes)	(amperes)
Resistive	5	5
Inductive	2.5	2

1/ 80,000 feet for PIN's M8805/101-003 through -006, and -024.

70,000 feet for PIN's M8805/101-008 through -022, -026, and -028.

Logic level circuit (5.0 V dc, .010 ampere): Applicable see Table III.

Part or Identifying Number (PIN): M8805/101-(dash number from table III).

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Qualification: See table IV. Table IV applies provided that form Z and form C switches have similar internal construction and similar double break contact arrangements.

Group A inspection:

Operating characteristics and contact resistance: Do not exceed low level electrical ratings during any testing of gold contact switches. When contact resistance is tested at 30 millivolts maximum open circuit test voltage and 10 milliamperes maximum current, the maximum contact resistance is 3 ohms.

Dielectric withstanding voltage: 100 percent inspection is required on PIN's M8805/101-001 through -006, -023 and -024.

TABLE III. Dash numbers.

Contact form	Dash numbers		Terminal	Dielectric withstanding voltage	
	Intermediate Level	Logic/Low Level		Sea level	Altitude
Z	001 <u>1/</u> 002 <u>1/</u> 005 <u>1/</u> 023 <u>1/</u>	003 <u>1/</u> 004 <u>1/</u> 006 <u>1/</u> 024 <u>1/</u>	Spade .125 turret Printed circuit Solder lug	1,250 V rms initial	400 V rms at 80,000 ft initial
	007 009 011 013 025	008 010 012 014 026	Spade .125 turret Printed circuit .187 turret Solder lug	1,050 V rms	400 V rms at 70,000 ft
C	015 017 019 021 027	016 018 020 022 028	Spade .125 turret Printed circuit .187 turret Solder lug	1,050 V rms	400 V rms at 70,000 ft

1/ Dash numbers -001 through -006, -023, and -024 are selected to meet initial dielectric withstanding voltage requirements at the test voltages specified. One hundred percent inspection for dielectric withstanding voltage is required during group A inspection.

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TABLE IV. Qualification inspection.

Dash number	Inspection	Extent of approval
-007	Qualification inspection table of MIL-PRF-8805	All dash numbers
-010 (12 sample units)	Groups I, VII, X, and XI of qualification inspection table of MIL-PRF-8805	
-011 and -025 (2 sample units)	Visual and mechanical examination Solderability Terminal strength Dielectric withstanding voltage Operating characteristics	
-015 (4 sample units)	Groups I and VI of qualification inspection table of MIL-PRF-8805	

FOR GOVERNMENT LOGISTICAL SUPPORT: See table V.

TABLE V. Cross-reference for Government logistical support.

PIN	Support with PIN
M8805/101-007	M8805/101-001
M8805/101-008	M8805/101-003
M8805/101-009	M8805/101-002
M8805/101-010	M8805/101-004
M8805/101-011	M8805/101-005
M8805/101-012	M8805/101-006
M8805/101-025	M8805/101-023
M8805/101-026	M8805/101-024

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Referenced Documents:
MIL-PRF-8805

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

Preparing activity:
DLA - CC

Review activities:
Air Force - 99

(Project 5930-1859)

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.