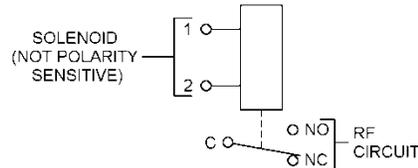


DETAIL SPECIFICATION SHEET

SWITCHES, RADIO-FREQUENCY TRANSMISSION LINE (MICROSTRIP)  
 (ELECTRICALLY OPERATED) CLASS 15, (PIN-MOUNTED) 1P2T

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

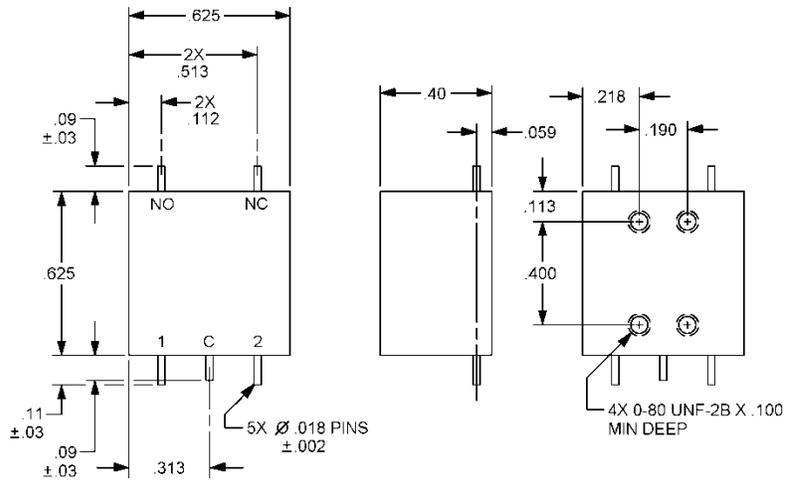
Requirements for acquiring the switches described herein  
 shall consist of this specification sheet and MIL-DTL-3928.



NORMALLY CLOSED (NC): (DEENERGIZED OR FAILSAFE POSITION),  
 C CONNECTS TO "NC" CONNECTOR.  
 "NO" IS OPEN CIRCUIT.

NORMALLY OPEN (NO): (ENERGIZED POSITION),  
 C CONNECTS TO "NO" CONNECTOR.  
 "NC" IS OPEN CIRCUIT

SCHEMATIC (SHOWN IN NC POSITION)



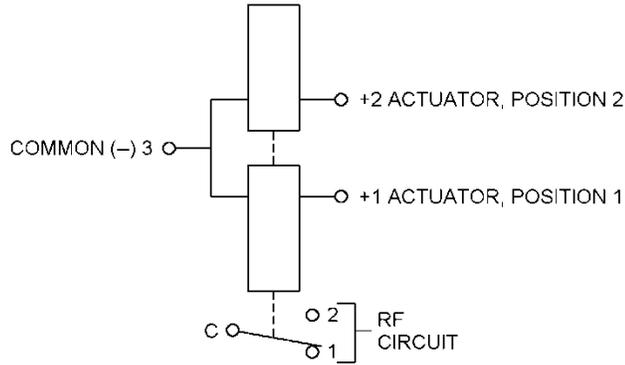
FAILSAFE OUTLINE

NOTES:

1. Dimensions are in inches.
2. Metric equivalents may be determined using 1.00 inch = 25.4 mm.
3. Unless otherwise specified, tolerances are  $\pm .005$  ( $\pm 0.13$  mm) for three place decimals and  $\pm .02$  ( $\pm 0.5$  mm) for two place decimals.

FIGURE 1. Switch configuration and schematic, part or identifying numbers M3928/29-01, M3928/29-02, M3928/29-03, M3928/29-04, M3928/29-05, and M3928/29-06.

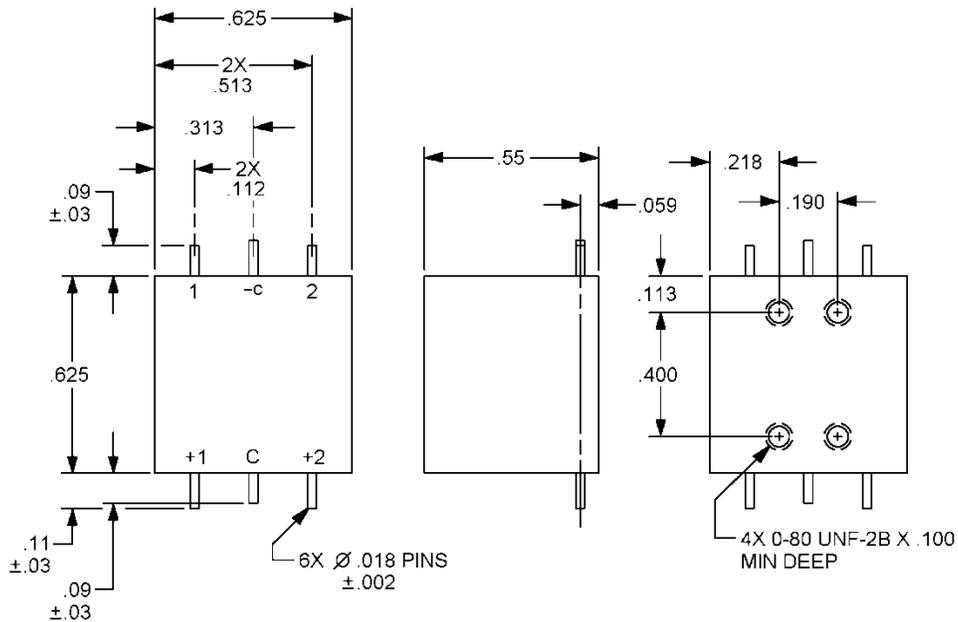
MIL-DTL-3928/29A



POSITION 1. (ENERGIZE TERMINAL 1),  
C CONNECTS TO 1,  
2 IS OPEN CIRCUIT.

POSITION 2. (ENERGIZE TERMINAL 2),  
C CONNECTS TO 2,  
1 IS OPEN CIRCUIT.

SCHEMATIC (SHOWN IN POSITION 1)



LATCHING OUTLINE

NOTES:

1. Dimensions are in inches.
2. Metric equivalents may be determined using 1.00 inch = 25.4 mm.
3. Unless otherwise specified, tolerances are  $\pm .005$  ( $\pm 0.13$  mm) for three place decimals and  $\pm .02$  ( $\pm 0.5$  mm) for two place decimals.

FIGURE 2. Switch configuration and schematic, part or identifying numbers M3928/29-07, M3928/29-08, M3928/29-09, M3928/29-10, M3928/29-11, and M3928/29-12.

TABLE I. Electrical and performance characteristics.

Part or identifying number M3928/29-	Fig. No.	Housing	Frequency range dc to GHz	VSWR Max	Insertion loss (dB) Max	Isolation (dB) Min	Switch time (ms) Max	Position indication circuit and rating	Life cycles x 1000 Min	Fail-safe or latching	Operating current (A) <sup>1/</sup> Max	Holding current (A) <sup>1/</sup> Max	Nominal operating voltage	Pickup voltage (less than)	Dropout voltage (less than)	Power and indicator connector	Weight (oz) Max
01N, S	1	0	18	1.7:1 <sup>2/</sup>	0.7 <sup>3/</sup>	50 <sup>4/</sup>	15	None	1,000	F	0.1	0.1	28 V dc	<20 V dc	---	Pin-mounted	.75
02N, S	1	0	8	1.4:1	0.4	60	15	None	1,000	F	0.1	0.1	28 V dc	<20 V dc	---	Pin-mounted	.75
03N, S	1	0	18	1.7:1 <sup>2/</sup>	0.7 <sup>3/</sup>	50 <sup>4/</sup>	15	None	1,000	F	0.17	0.17	12 V dc	<10 V dc	---	Pin-mounted	.75
04N, S	1	0	8	1.4:1	0.4	60	15	None	1,000	F	0.17	0.17	12 V dc	<10 V dc	---	Pin-mounted	.75
05N, S	1	0	18	1.7:1 <sup>2/</sup>	0.7 <sup>3/</sup>	50 <sup>4/</sup>	15	None	1,000	F	0.4	0.4	5 V dc	<4.5 V dc	---	Pin-mounted	.75
06N, S	1	0	8	1.4:1	0.4	60	15	None	1,000	F	0.4	0.4	5 V dc	<4.5 V dc	---	Pin-mounted	.75
07 N, S	2	0	18	1.7:1 <sup>2/</sup>	0.7 <sup>3/</sup>	50 <sup>4/</sup>	15	None	1,000	L	0.1	0	28 V dc	<20 Vdc	---	Pin-mounted	1.0
08 N, S	2	0	8	1.4:1	0.4	60	15	None	1,000	L	0.1	0	28 V dc	<20 Vdc	---	Pin-mounted	1.0
09 N, S	2	0	18	1.7:1 <sup>2/</sup>	0.7 <sup>3/</sup>	50 <sup>4/</sup>	15	None	1,000	L	0.17	0	12 V dc	<10 V dc	---	Pin-mounted	1.0
10 N, S	2	0	8	1.4:1	0.4	60	15	None	1,000	L	0.17	0	12 V dc	<10 V dc	---	Pin-mounted	1.0
11 N, S	2	0	18	1.7:1 <sup>2/</sup>	0.7 <sup>3/</sup>	50 <sup>4/</sup>	15	None	1,000	L	0.4	0	5 V dc	<4.5 V dc	---	Pin-mounted	1.0
12 N, S	2	0	8	1.4:1	0.4	60	15	None	1,000	L	0.4	0	5 V dc	<4.5 V dc	---	Pin-mounted	1.0

<sup>1/</sup> At nominal voltage and 20°C.

<sup>2/</sup> The VSWR at DC to 8 GHz is 1.4:1 maximum.

<sup>3/</sup> The insertion loss at DC to 8 GHz is 0.4 dB maximum.

<sup>4/</sup> The isolation at DC to 8 GHz is 60 dB minimum.

REQUIREMENTS:

Dimensions and configurations: See figures 1 and 2.

Termination: Open.

Nominal impedance: 50 ohms.

RF connections: Pins for printed circuit (pc) mount. Pins are soldered to microstrip.

Electrical and performance characteristics: See table I.

RF contacts: Break before make.

RF power handling capability: 10 watts.

Operating temperature: -55°C to +85°C.

Dielectric withstanding voltage:

Actuator pins: 500 V dc.

RF pins: 250 V rms.

Solar radiation: Not applicable.

RF energy leakage: Not applicable.

Terminal strength: Not applicable.

Part or Identifying Number: M3928/29- (and dash number from table I).

Referenced documents: This specification sheet only references MIL-DTL-3928.

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:

Army - CR

Navy - EC

Air Force - 85

DLA - CC

Preparing activity:

DLA - CC

(Project 5985-2013-004)

Review activities:

Army - AV, MI

Navy - AS, MC, OS

Air Force - 19, 99

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.dla.mil/>.