

INCH-POUND

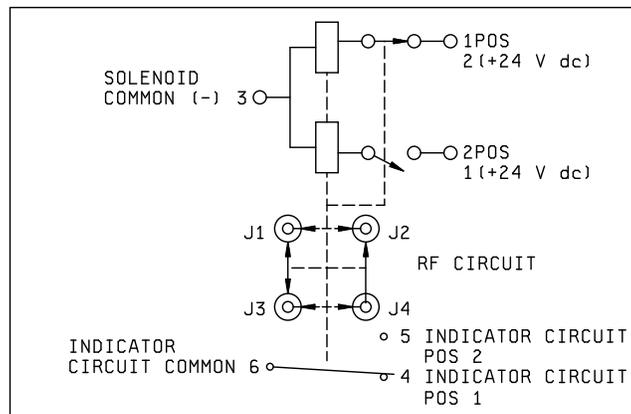
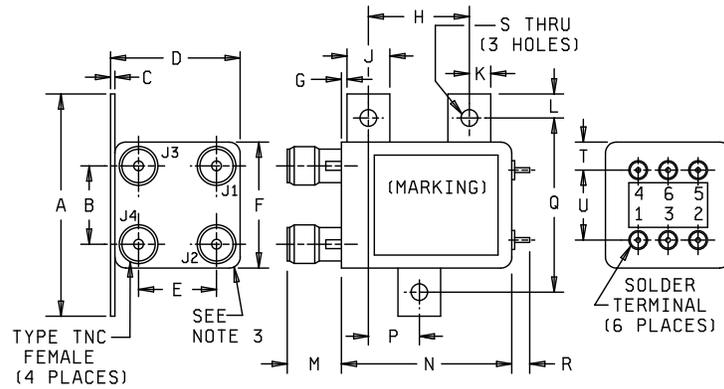
MIL-DTL-3928/21E
28 January 2013
SUPERSEDING
MIL-DTL-3928/21D
18 July 2008

DETAIL SPECIFICATION SHEET

SWITCHES, RADIO-FREQUENCY TRANSMISSION LINE
(COAXIAL) (ELECTRICALLY OPERATED) CLASS 4, TR

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

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



POSITION 1 ENERGIZED TERMINAL NO.2 J1-J3 AND J2-J4
POSITION 2 ENERGIZED TERMINAL NO.1 J1-J2 AND J3-J4
(DOTTED LINES)

SCHEMATIC (SHOWN IN POSITION 1)

FIGURE 1. PIN M3928/21-01.

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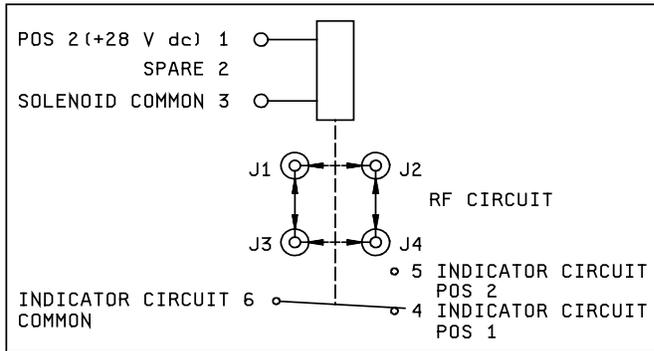
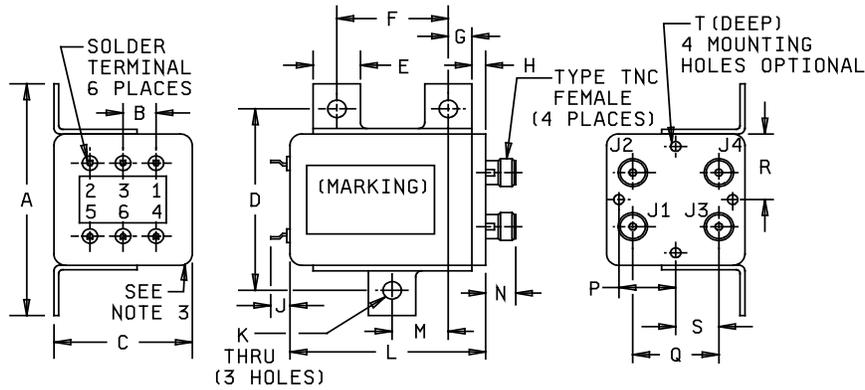
Dimensions									
Letter	Inches		Millimeters		Letter	Inches		Millimeters	
	Max	Min	Max	Min		Max	Min	Max	Min
A	2.19	2.13	55.6	54.1	L	.22	.16	5.6	4.1
B	.646	.626	16.41	15.90	M	.720	---	18.29	---
C	.066	.060	1.68	1.52	N	2.15	---	54.6	---
D	1.37	---	34.8	---	P	.553	.537	14.05	13.64
E	.646	.626	16.41	15.90	Q	1.790	1.770	45.47	44.96
F	1.30	---	33.0	---	R	.300	---	7.62	---
G	.015	---	0.38	---	S	.159 dia	.139 dia	4.04 dia	3.53 dia
H	1.098	1.082	27.89	27.48	T	.35	.29	8.9	7.4
J	.53	.47	13.5	11.9	U	.65	.59	16.5	15.0
K	.28	.22	7.1	5.6					

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Unless otherwise specified, tolerances are $\pm .010$ (± 0.25 mm) for three place decimals and $\pm .03$ (± 0.8 mm) for two place decimals.
4. Round corners of case may be squared.

FIGURE 1. PIN M3928/21-01 - Continued.

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POSITION 1 DEENERGIZED OR FAILSAFE POSITION, J1-J3 AND J2-J4
 POSITION 2 ENERGIZED POSITION, J1-J2 AND J3-J4.

SCHEMATIC (SHOWN IN POSITION 1)

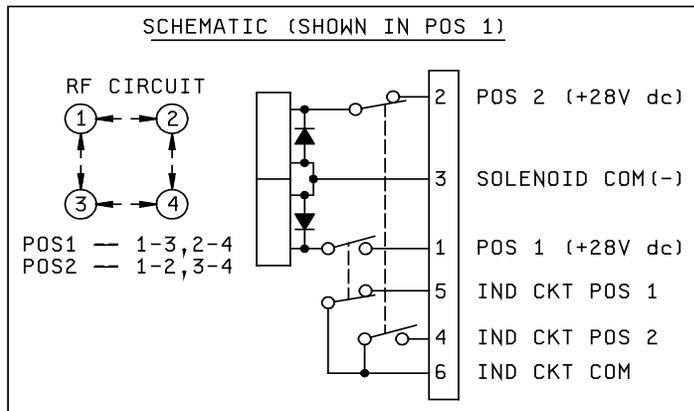
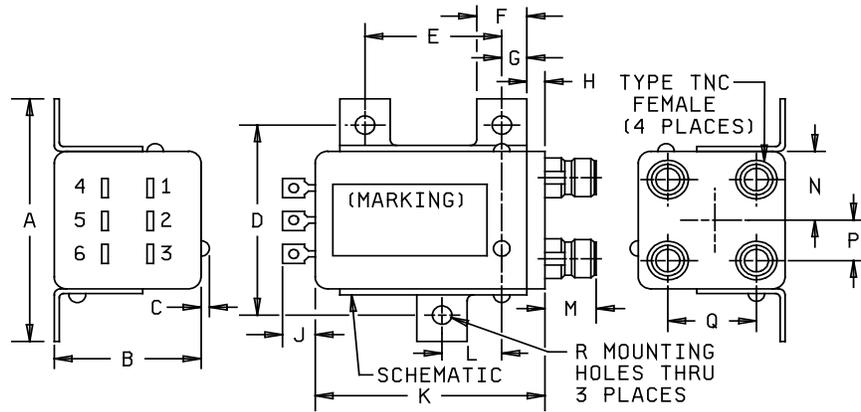
Dimensions									
Letter	Inches		Millimeters		Letter	Inches		Millimeters	
	Max	Min	Max	Min		Max	Min	Max	Min
A	3.28	3.22	83.3	81.8	K	.203 dia	.183 dia	5.16 dia	4.65 dia
B	.53	.47	13.5	11.9	L	2.60	---	66.0	---
C	1.90	---	48.3	---	M	.760	.740	19.30	18.80
D	2.610	2.590	66.29	65.79	N	.650	---	16.51	---
E	.63	.57	16.0	14.5	P	.730	.710	18.54	18.03
F	1.510	1.490	38.35	37.85	Q	.895	.875	22.73	22.23
G	.33	.27	8.4	6.9	R	.885	.865	22.48	21.97
H	.28	.22	7.1	5.6	S	.452	.432	11.48	10.97
J	.320	---	8.13	---	T	.138-32UNC-2B X		3.50-32UNC-2B X	

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Unless otherwise specified, tolerances are $\pm .010$ (± 0.25 mm) for three place decimals and $\pm .03$ (± 0.8 mm) for two place decimals.
4. Round corners of case may be squared.

FIGURE 2. PIN M3928/21-02.

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Dimensions									
Letter	Inches		Millimeters		Letter	Inches		Millimeters	
	Max	Min	Max	Min		Max	Min	Max	Min
A	3.28	3.22	83.3	81.8	J	.32	---	8.1	---
B	1.80	---	45.7	---	K	2.60	---	66.0	---
C	.09	---	2.3	---	L	.78	.72	19.8	18.3
D	2.610	2.590	66.29	65.79	M	.65	---	16.5	---
E	1.510	1.490	38.35	37.85	N	.885	.865	22.48	21.97
F	.63	.57	16.0	14.5	P	.452	.432	11.48	10.97
G	.33	.27	8.4	6.9	Q	.895	.875	22.73	22.23
H	.28	.22	7.1	5.6	R	.198	.192	5.03	4.88

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Unless otherwise specified, tolerances are $\pm .010$ (± 0.25 mm) for three place decimals and $\pm .03$ (± 0.8 mm) for two place decimals.
4. Round corners of case may be squared.

FIGURE 3. PIN M3928/21-03.

TABLE I. Electrical and performance characteristics.

PIN M3928/21-	Fig. No.	Housing	Frequency range dc to GHz	VSWR	Insertion loss (dB)	Isolation (dB)	Switch- ing time (ms)	Position indication circuit and rating	Life cycles x 1000	Fail-safe or latching	Operating current (A) <u>1/</u>	Holding current (A) <u>1/</u>	Nominal operating voltage	Pickup voltage (less than)	Dropout voltage (less than)	Power and indicator connector	Weight (oz)
01N, S <u>2/</u>	1	I	11	<u>Max</u> 1.5:1	<u>Max</u> 0.5	<u>Min</u> 50	<u>Max</u> 30	Yes	100	L	<u>Max</u> 2.6	<u>Max</u> 0	28 V dc	20 V dc	---	Solder terminals	<u>Max</u> 6
02N, S	2	E	12.4	1.5:1	0.5	60	25	2A at 28 V dc	100	F	0.5	0.2	28 V dc	20 V dc	5 V dc	Solder terminals	12
03N, S	3	I	12.4 1.57	1.5:1 1.2:1	0.5 0.1	60	20 30	0.1 A at 28 V dc	100	F	0.65	---	28 V dc	20 V dc	---	Solder terminals	12

1/ At 28 V dc and 20 deg C.

2/ Transient interference (RFI).

3/ RF power handling capacity: 80 watts minimum at sea level and 10^{-5} through 10^{-10} torr.

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REQUIREMENTS:

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

RF connectors: Female connectors (4 places) shall meet the requirements of MIL-PRF-39012 and shall mate with TNC type male connectors in accordance with MIL-PRF-39012/26.

Electrical and performance characteristics: See table I.

RF power handling capability (average): 50 watts (minimum).

Nominal impedance: 50 ohms.

Termination: Open.

Vibration: Method I.

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

Part or Identifying Number (PIN): M3928/21- (and dash number from table I).

Referenced documents. In addition to MIL-DTL-3928, this specification sheet references MIL-PRF-39012 and MIL-PRF-39012/26.

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 5985-2013-003)

Review activities:
Navy - AS, MC, OS, SH
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/>.