

INCH-POUND

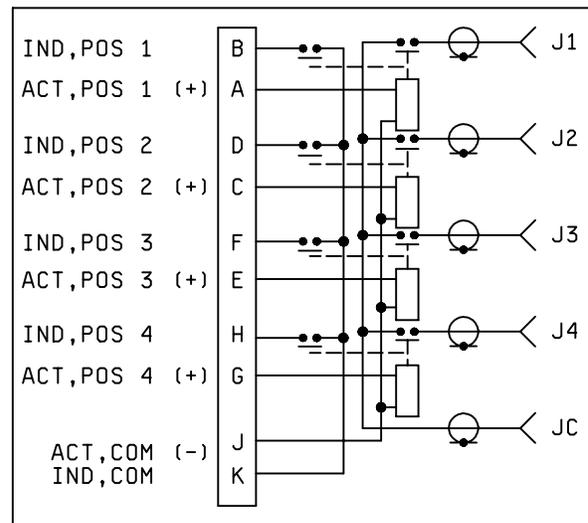
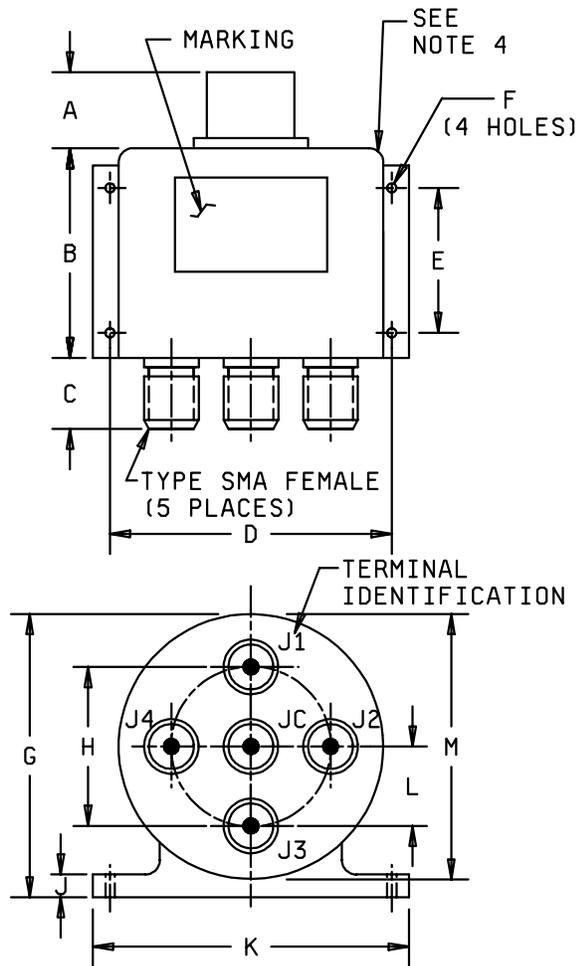
MIL-DTL-3928/17B
15 August 2001
SUPERSEDING
MIL-S-3928/17A
15 July 1988

DETAIL SPECIFICATION SHEET

SWITCHES, RADIO-FREQUENCY
TRANSMISSION LINE (COAXIAL) (ELECTRICALLY OPERATED)
CLASS 5, 1P4T

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.



SCHEMATIC (SHOWN IN DEENERGIZED POSITION)

FIGURE 1. Switch configuration and schematic, PIN M3928/17-01.

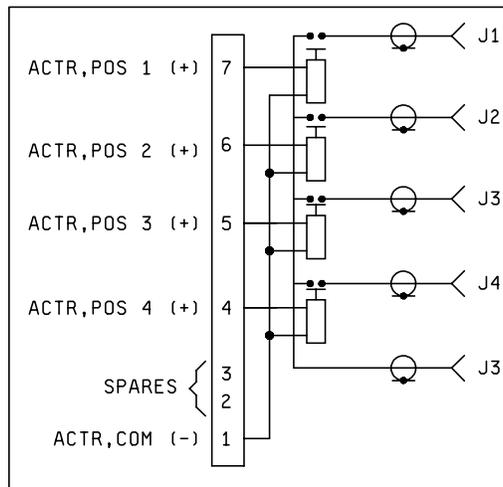
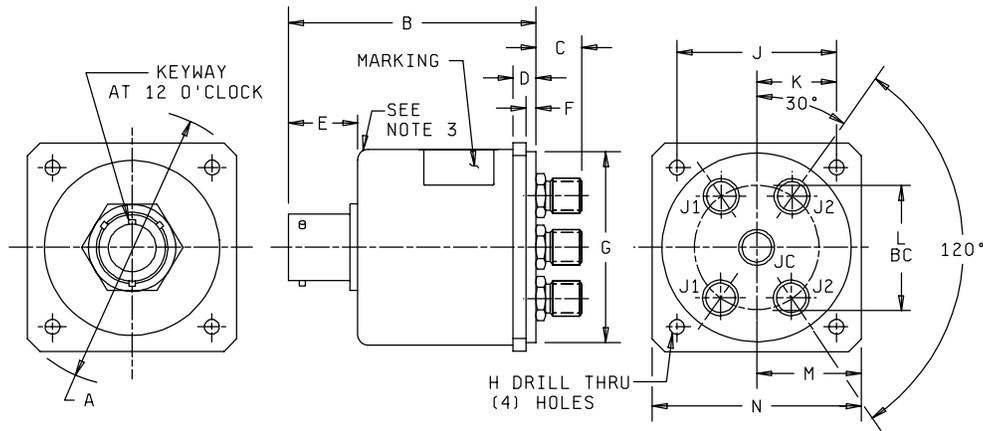
Dimensions									
Letter	Inches		Millimeters		Letter	Inches		Millimeters	
	Max	Min	Max	Min		Max	Min	Max	Min
A	.48	---	12.2	---	G	2.25	---	57.2	---
B	2.60	---	66.0	---	H	1.28 dia	1.22 dia	32.5 dia	31.0 dia
C	.37	---	9.4	---	J	.15	---	3.81	---
D	2.135	2.115	54.23	53.72	K	2.82	---	71.6	---
E	1.128	1.108	28.65	28.14	L	.635	.615	16.13	15.62
F	.228	.208	5.79	5.28	M	2.03 dia	1.97 dia	51.6 dia	50.0 dia

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. Switch configuration and schematic, PIN M3928/17-01 - Continued.

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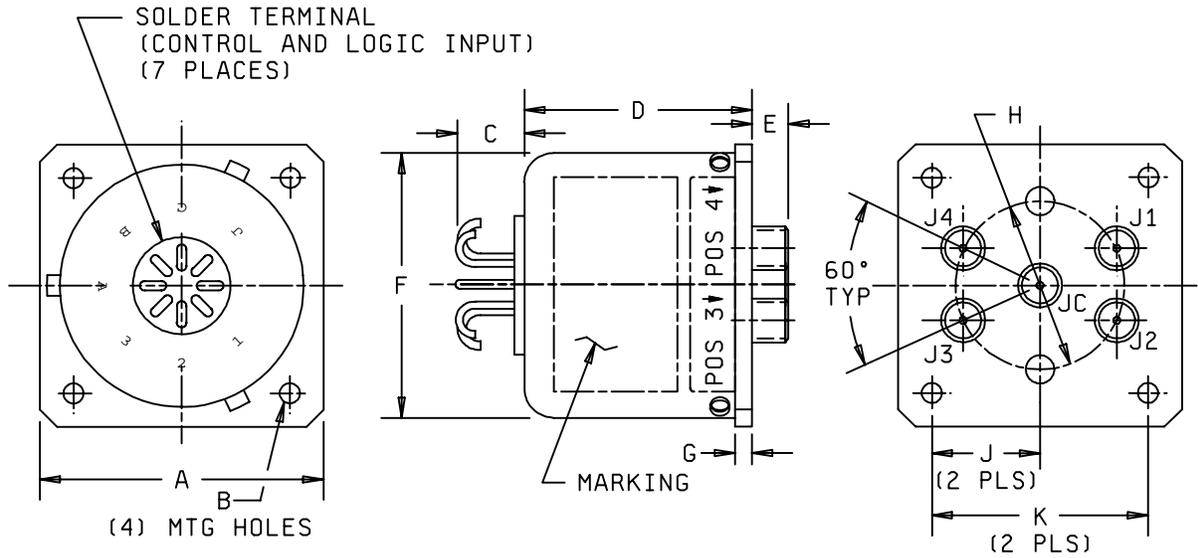
SCHEMATIC (SHOWN IN DEENERGIZED POSITION)

Dimensions									
Letter	Inches		Millimeters		Letter	Inches		Millimeters	
	Max	Min	Max	Min		Max	Min	Max	Min
A	2.34	2.28	59.4	57.9	H	.154 dia	.139 dia	3.91 dia	3.53 dia
B	1.60	---	40.6	---	J	1.380	1.370	35.05	34.80
C	.34	.28	8.6	7.1	K	.697	.677	17.70	17.20
D	.260	.240	6.60	6.10	L	1.072	1.052	27.23	26.72
E	.62	.56	15.7	14.2	M	.885	.865	22.48	21.97
F	.130	.120	3.30	3.05	N	1.78	1.72	45.21	43.69
G	1.560 dia	1.556 dia	39.62 dia	39.52 dia					

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. Switch configuration and schematic, PIN M3928/17-02.

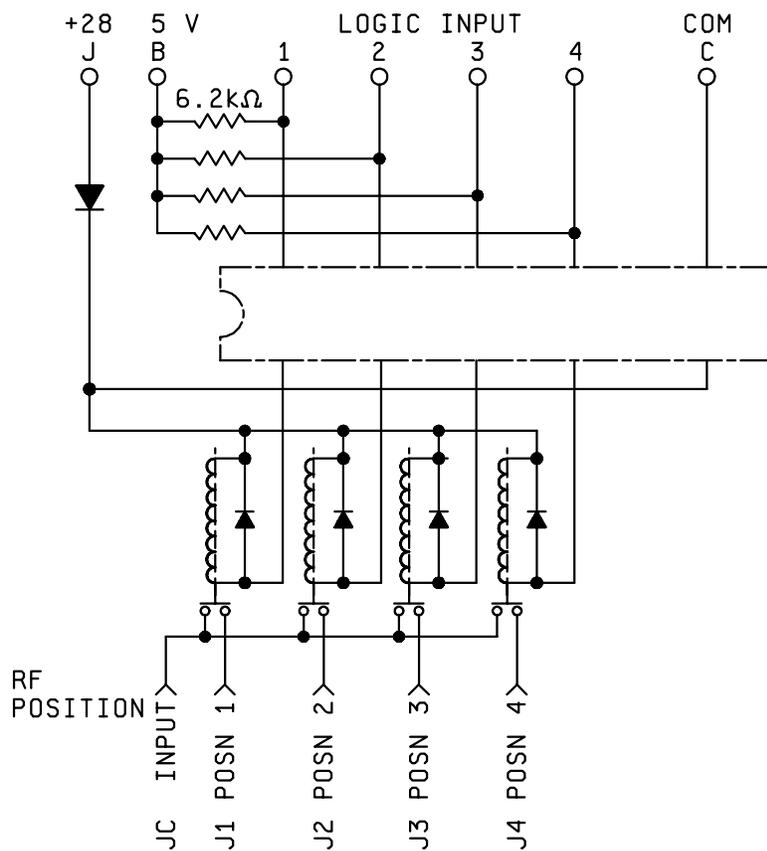


Dimensions									
Letter	Inches		Millimeters		Letter	Inches		Millimeters	
	Max	Min	Max	Min		Max	Min	Max	Min
A	1.78	1.72	45.2	43.7	F	1.53	1.47	38.9	37.3
B	.135 dia	.115 dia	3.43 dia	2.92 dia	G	.135	.115	3.43	2.92
C	.25	---	6.3	---	H	8.83 dia	8.77 dia	224.3 dia	222.8 dia
D	2.50	---	63.5	---	J	6.90	6.84	175.3	173.7
E	.27	---	6.9	---	K	1.384	1.364	35.15	34.65

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. Switch configuration and schematic, PIN M3928/17-03.



SCHEMATIC

Truth table/pin assignment:

Logic input terminals				RF positions			
1	2	3	4	1	2	3	4
1	0	0	0	On	---	---	---
0	1	0	0	---	On	---	---
0	0	1	0	---	---	On	---
0	0	0	1	---	---	---	On

FIGURE 3. Switch configuration and schematic, PIN M3928/17-03 - Continued.

TABLE I. Electrical and performance characteristics.

PIN M3928/17-	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	18	<u>Max</u> 1.5:1	<u>Max</u> 0.5	<u>Min</u> 40	<u>Max</u> 20	.2A at 40 V dc	100	---	<u>Max</u> .13	<u>Max</u> .13	28 V dc	20 V dc	16 V dc	M8372311 H1210N	<u>Max</u> 16
02N, S	2	I	18	1.5:1	0.5	60	20	None	1000	---	.17	.17	28 V dc	20 V dc	16 V dc	RTK07- 87P (Deutsch or equal)	16
03N, S <u>3/</u>	3	I	18	1.25:1 at DC-6 GHz 1.50:1 at 12-18 GHz	0.2 at DC-6 GHz 0.5 at 12-18 GHz	70 at DC-6 GHz 60 at 12-18 GHz	20	None	100	---	.16	.16	28 V dc +5 V dc <u>4/</u>	20 V dc	16 V dc		5

1/ At 28 V dc and 20 deg C.

2/ Transient interference (RFI)

3/ Logic voltage

Logic 0: 0 to 0.8 V dc.

Logic 1: 2.4 V dc to 5 V dc.

4/ +5 voltage deviation: $\pm .5$ V dc.

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REQUIREMENTS:

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

RF connectors: Female connectors (5 places) shall meet the requirements of MIL-PRF-39012 and shall mate with SMA type male connectors in accordance with MIL-PRF-39012/55.

Electrical and performance characteristics: See table I.

RF power handling capability (average): 25 watts (minimum) except dash number 03 is 15 watts (minimum).

Nominal impedance: 50 ohms.

Termination: Open.

Vibration: Method I.

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

Part or Identifying Number (PIN): M3928/17- (and dash number from table I).

Revision letters are not used in this revision to identify changes with respect to the previous issue, due to the extensiveness of the changes.

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

Preparing activity:
DLA - CC

(Project 5985-1209-08)

Review activities:
Army - MI
Navy - AS, MC, OS, SH
Air Force - 19, 99