DETAIL SPECIFICATION SHEET

SWITCHES, RADIO-FREQUENCY TRANSMISSION LINE (COAXIAL) (MANUALLY AND MOTOR OPERATED) CLASS 1 (TYPE N CONNECTORS)

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

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

POSITION 1 CONNECTS A2 TO A3 | B2 TO B3
POSITION 2 CONNECTS A1 TO A2 | B1 TO B2

FIGURE 1. Dimensions and configuration for PIN M3928/9-04.
### NOTES:
1. Dimension are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Unless otherwise specified, tolerances are ± .010 inch (± 0.25 mm) for three place decimals and ± .03 inch (± 0.8 mm) for two place decimals.

#### FIGURE 1. Dimensions and configuration for PIN M3928/9-04 - Continued.
NOTES:
1. Dimension are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Unless otherwise specified, tolerances are ± .010 inch (± 0.25 mm) for three place decimals and ± .02 inch (± 0.5 mm) for two place decimals.
4. Remove all burrs and sharp edges .005 max. Finish to be .03 microinch or better.

MIL-DTL-3928/9E
w/AMENDMENT 1

MFR NAME
MANUAL COAXIAL SWITCH
M3928/9-05
MFR CAGE
S/N

IDENTIFICATION DECAL

K) THREADED
MOUNTING HOLES N DEEP
IN R.F. HEAD CASE
ON Ø(P) HOLE CIRCLE
4 PLACES AS SHOWN

H

E

F

C

G

D

L

45

M) TAPPED HOLES
SELF-LOCKING THREADS
FULL THREAD (N) DEEP
FOR MOUNTING

1 IN

2

IN

(E) PANEL
(J) MAX
(Optional)

TYPE N CONNECTOR (FEMALE)
3 PLACES

1

2

1 2

SCHEMATIC

POSITION 1 CONNECTS "IN" TO 1
POSITION 2 CONNECTS "IN" TO 2

(Outline and schematic for M2928/9-05)

**NOTES:**

1. Dimension are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Unless otherwise specified, tolerances are ± .010 inch (± 0.25 mm) for three place decimals and ± .03 inch (± 0.8 mm) for two place decimals.

**FIGURE 3.** Dimensions and configuration for PINs M3928/9-14, and M3928/9-15.
FIGURE 4. Dimensions and configuration for PIN M3928/9-17.
### Dimensions

<table>
<thead>
<tr>
<th>Letter</th>
<th>Inches</th>
<th>Millimeters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max</td>
<td>Min</td>
</tr>
<tr>
<td>A</td>
<td>2.838 dia</td>
<td>2.818 dia</td>
</tr>
<tr>
<td>B</td>
<td>1.072</td>
<td>1.052</td>
</tr>
<tr>
<td>C</td>
<td>3.557</td>
<td>3.537</td>
</tr>
<tr>
<td>D</td>
<td>1.885</td>
<td>1.865</td>
</tr>
<tr>
<td>E</td>
<td>6.65</td>
<td>---</td>
</tr>
<tr>
<td>F</td>
<td>1.635</td>
<td>1.615</td>
</tr>
<tr>
<td>G</td>
<td>1.948</td>
<td>1.928</td>
</tr>
<tr>
<td>H</td>
<td>.979</td>
<td>.959</td>
</tr>
<tr>
<td>J</td>
<td>.94</td>
<td>.88</td>
</tr>
<tr>
<td>K</td>
<td>.260</td>
<td>.240</td>
</tr>
<tr>
<td>L</td>
<td>2.760</td>
<td>2.740</td>
</tr>
<tr>
<td>M</td>
<td>.260</td>
<td>.240</td>
</tr>
<tr>
<td>N</td>
<td>.385</td>
<td>.365</td>
</tr>
<tr>
<td>P</td>
<td>.287 dia</td>
<td>.280 dia</td>
</tr>
</tbody>
</table>

### NOTES:
1. Dimension are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Unless otherwise specified, tolerances are ± .010 inch (± 0.25 mm) for three place decimals and ± .03 inch (± 0.76 mm) for two place decimals.
4. Remove all burrs and sharp edges .015 inch (0.38 mm) maximum.
5. All machined surfaces shall be in accordance with ASME B46.1.
6. Mates with SAE-AS34521 W-12-10S.
7. For PIN M3928/9-04, the center connector shall be deleted.

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**FIGURE 4.** Dimensions and configuration for PIN M3928/9-17 - Continued.
<table>
<thead>
<tr>
<th>PIN M3928/9-1/</th>
<th>Figure No.</th>
<th>Housing</th>
<th>Manual or remote</th>
<th>Solenoid or motor</th>
<th>Frequency range dc to GHz</th>
<th>VSWR</th>
<th>Insertion loss (dB)</th>
<th>Isolation (dB)</th>
<th>Configur-</th>
<th>Position indicating circuit (and current rating)</th>
<th>Life cycles x 1000</th>
<th>Nominal operating voltage</th>
<th>Operating current (A)</th>
<th>Switch time (ms)</th>
<th>Power connector</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>04N, S</td>
<td>1</td>
<td>I</td>
<td>M</td>
<td>---</td>
<td>10</td>
<td>1.3</td>
<td>0.31</td>
<td>50</td>
<td>min</td>
<td>2P2T</td>
<td>None</td>
<td>200</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>1.75</td>
</tr>
<tr>
<td>05N, S</td>
<td>2</td>
<td>I</td>
<td>M</td>
<td>---</td>
<td>10</td>
<td>1.3</td>
<td>0.31</td>
<td>50</td>
<td>min</td>
<td>1P2T</td>
<td>None</td>
<td>200</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>1.75</td>
</tr>
<tr>
<td>13N, S</td>
<td>2</td>
<td>I</td>
<td>M</td>
<td>---</td>
<td>10</td>
<td>1.3</td>
<td>0.31</td>
<td>50</td>
<td>min</td>
<td>TR</td>
<td>None</td>
<td>200</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>1.75</td>
</tr>
<tr>
<td>14N, S</td>
<td>3</td>
<td>I</td>
<td>M</td>
<td>---</td>
<td>10</td>
<td>1.3</td>
<td>0.31</td>
<td>50</td>
<td>min</td>
<td>1P3T</td>
<td>None</td>
<td>200</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>1.75</td>
</tr>
<tr>
<td>15N, S</td>
<td>3</td>
<td>I</td>
<td>M</td>
<td>---</td>
<td>10</td>
<td>1.3</td>
<td>0.31</td>
<td>50</td>
<td>min</td>
<td>1P6T</td>
<td>None</td>
<td>200</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>1.75</td>
</tr>
<tr>
<td>17N, S</td>
<td>4</td>
<td>I</td>
<td>R</td>
<td>M</td>
<td>12.4</td>
<td>1.5</td>
<td>0.5</td>
<td>60</td>
<td>min</td>
<td>TR</td>
<td>Yes</td>
<td>60</td>
<td>28 V dc</td>
<td>3.0</td>
<td>200</td>
<td>3</td>
</tr>
</tbody>
</table>

1/ M3928/9-01, M3928/9-02, M3928/9-03, M3928/9-06, M3928/9-07, M3928/9-08, M3928/9-09, M3928/9-10, M3928/9-11, M3928/9-12, and M3928/9-16 have been deleted.
MIL-DTL-3928/9E
w/AMENDMENT 1

REQUIREMENTS:

Dimensions and configurations: See figures 1 through 4.

Electrical and performance characteristics: See table I.

RF power handling capability (average): 100 watts (min).

RF connectors: Series N female connectors shall mate with series N male connectors in accordance with MIL-PRF-39012/1.

Nominal impedance: 50 ohms.

Termination: Open.


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

Part or Identifying Number (PIN): M3928/9- (dash number from table I).

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TABLE II. PIN to type cross-reference. 1/

<table>
<thead>
<tr>
<th>PIN M3928/9-</th>
<th>Type SA- /U</th>
</tr>
</thead>
<tbody>
<tr>
<td>04</td>
<td>1336</td>
</tr>
<tr>
<td>05</td>
<td>1337</td>
</tr>
<tr>
<td>13</td>
<td>1345</td>
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<td>1346</td>
</tr>
<tr>
<td>15</td>
<td>1347</td>
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<tr>
<td>17</td>
<td>---</td>
</tr>
</tbody>
</table>

1/ PINs M3928/9-01, M3928/9-02, M3928/9-03, M3928/9-06, M3928/9-07, M3928/9-08, M3928/9-09, M3928/9-10, M3928/9-11, M3928/9-12, and M3928/9-16 have been deleted.
MIL-DTL-3928/9E
w/AMENDMENT 1

Referenced documents: In addition to MIL-DTL-3928, this document references the following:

- MIL-STD-202-204
- MIL-PRF-39012/1
- SAE-AS34521
- ASME-B46.1

Amendment notations. The margins of this specification sheet are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Custodians: Preparing activity:
Army - CR DLA - CC
Navy - EC
Air Force - 85 (Project 5985-2020-005)
DLA - CC

Review activities:
Army - AR, AT, AV, CR4, MI
Navy - MC, OS
Air Force - 19

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