

INCH-POUND

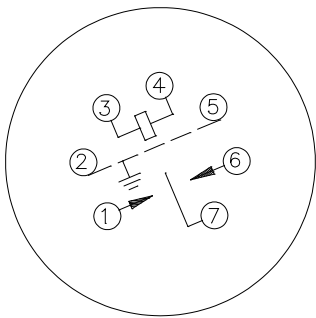
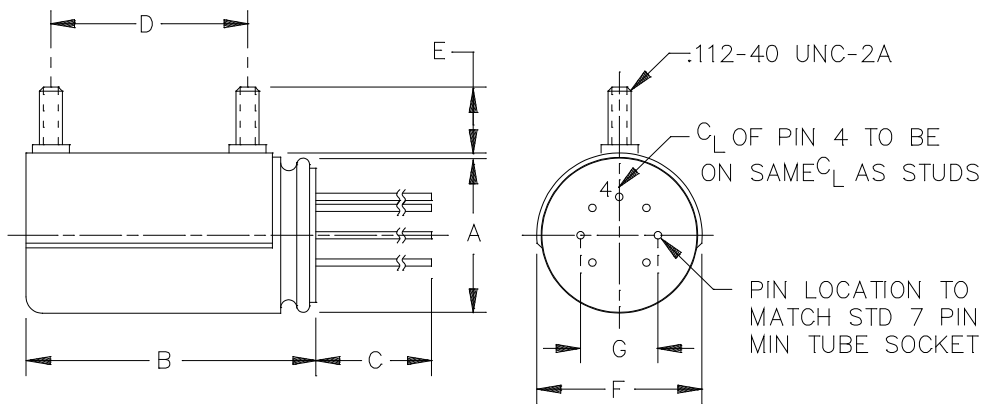
MIL-DTL-83729/4D
22 March 2018
SUPERSEDING
MIL-DTL-83729/4C
12 March 2013

DETAIL SPECIFICATION SHEET

CHOPPERS, ELECTROMECHANICAL, HERMETICALLY SEALED,
SINGLE POLE, DOUBLE THROW, BREAK BEFORE MAKE

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

The requirements for acquiring the product described herein shall consist
of this specification sheet and [MIL-DTL-83729](#).



Letter	Inches	mm	Letter	Inches	mm
A	.745 MIN	18.92	D	1.010 MAX	25.65
A	.763 MAX	19.38	E	.300 MIN	7.62
B	1.391 MIN	35.33	E	.343 MAX	8.71
B	1.438 MAX	36.53	F	.830	21.08
C	2.00	50.80	G	.375	9.53
D	.990 MIN	25.15			

SCHEMATIC DIAGRAM

- NOTES:
1. Dimensions are in inches.
 2. Metric equivalents are given for general information only.
 3. Unless otherwise specified, tolerances are $\pm .005$ (.13 mm) for three place decimals and $\pm .02$ (.51 mm) for two place decimals.
 4. Letter C has a tolerance of $\pm .06$ (1.52 mm).
 5. Letter G has a tolerance of $\pm .010$ (.25mm).
 6. When the coil is de-energized the center reed may be in any of 3 positions.

FIGURE 1. Outline drawing, terminal arrangement and schematic diagram.



REQUIREMENTS:

Contact data:

Single pole, double throw, break before make.

Polarity: With positive voltage on pin 3 and negative voltage on pin 4, pins 6 and 7 will close.

Voltage and current: Dry circuit to 2 milliamperes at 10.0 V dc (maximum intermittent rating). 10 volts at 1 milliampere continuous rating maximum.

Coil data at 25°C:

Voltage rated: 5.7 to 6.9 volts rms.

Resistance: 155 ohms $\pm$ 10%.

Impedance: 153 to 197 ohms.

Frequency range: 57 to 63 Hz.

Waveform characteristics (at 25°C):

Dwell time: $167^\circ \pm 10^\circ$.

Dissymmetry: 15 degrees maximum.

Transfer time: 3 degrees minimum.

Phase angle: $20^\circ \pm 5^\circ$ electrical degrees.

Noise level: 50 microvolts rms maximum, above system noise, between each contact and ground, across 1.0 megohm with the chopper operating.

Environmental conditions:

Dielectric withstanding voltage: 145 volts rms, 60 Hz or 200 volts dc for 60 seconds.

Insulation resistance: 100 megohms minimum between contacts and ground and 10 megohms minimum for drive coil to ground.

Vibration I: 10 to 55 Hz at 0.060 inches maximum, double amplitude, nonoperating.

Shock: 100 g's as specified in [MIL-STD-202-213](#), test condition I, nonoperating.

Temperature range: -65°C to 100°C.

Life: 2,000 hours, dry circuit @ $25^\circ \pm 5^\circ\text{C}$.

Mechanical:

Weight: .094 pound, maximum.

Dimensions: See [figure 1](#).

Enclosure: Hermetically sealed, material brass, deep drawn, grey enamel finish over zinc chromate primer.

Header: 7 pin miniature, pins 1, 3, 4, 6, and 7 to be copper, compression glass bead insulators.

Terminals: Wire leads.

Mounting position: Any.

Part or Identifying Number (PIN): M83729/4-001.

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. 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 and relationship to the previous issue.

Referenced documents. In addition to [MIL-DTL-83729](#), this document references the following:
[MIL-STD-202-213](#)

Custodian activities:

Army – CR
Navy – EC
Air Force – 85
DLA – CC

Preparing activity:

DLA – CC

(Project 5945-2018-006)

Review activities:

Army – AT, CR4, 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/>.