

INCH-POUND

MIL-R-83725/18B
w/AMENDMENT 2
6 January 2006
SUPERSEDING
MIL-R-83725/18B
AMENDMENT 1
22 November 2000

MILITARY SPECIFICATION SHEET

RELAYS, VACUUM, SPST, NC, DC, 8 AMPERES

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

The requirements for acquiring the mounting track described herein shall consist of this specification and the latest issue of MIL-R-83725

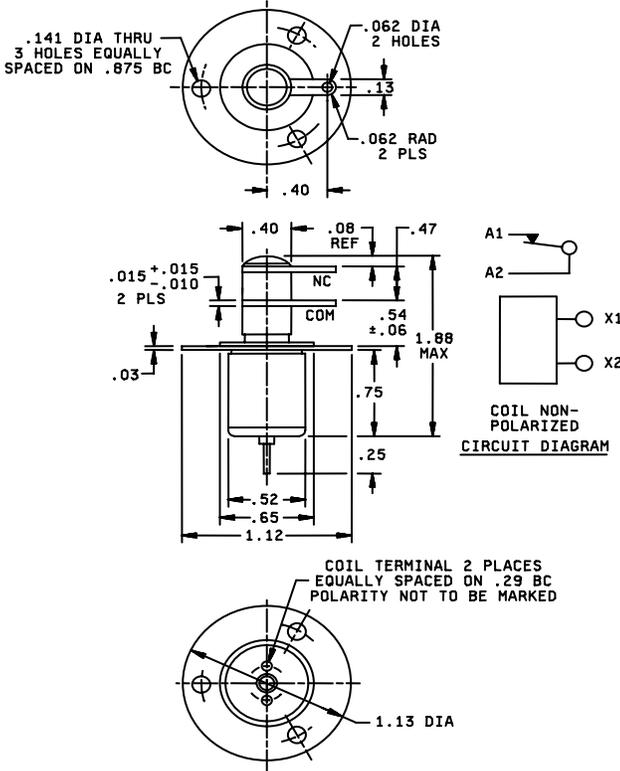
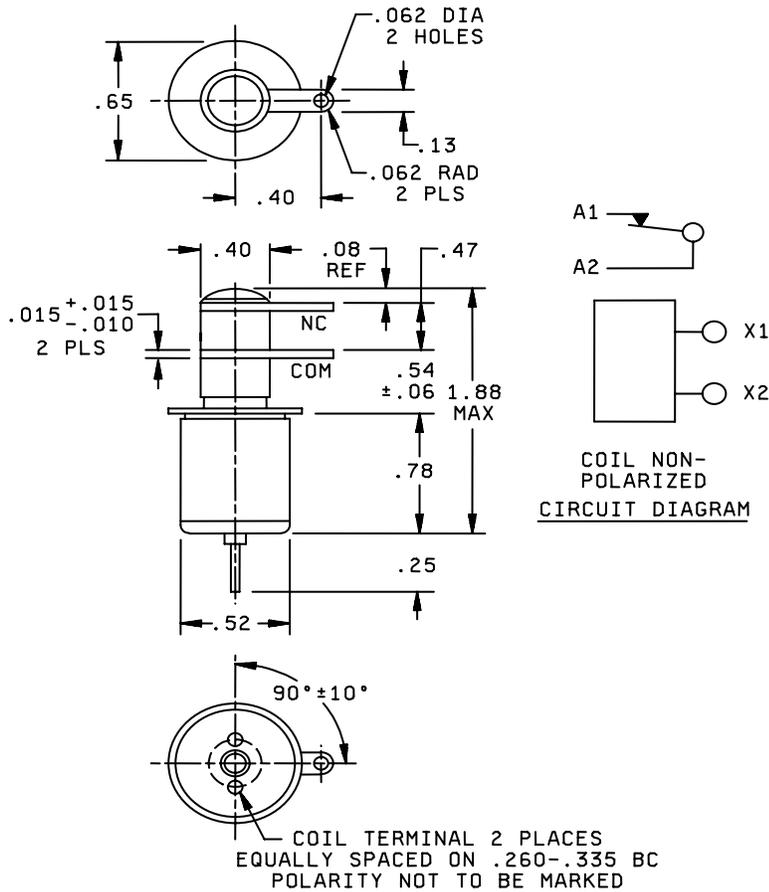


FIGURE 1. Relay configurations.

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| Inches | mm | Inches | mm |
|--------|------|--------|-------|
| .015 | 0.38 | 0.52 | 13.2 |
| .03 | 0.8 | 0.54 | 13.7 |
| .06 | 1.5 | 0.65 | 16.5 |
| .062 | 1.57 | 0.70 | 17.8 |
| .08 | 2.0 | 0.73 | 18.5 |
| .13 | 3.3 | 0.8 | 20.3 |
| .141 | 3.58 | 0.875 | 22.23 |
| .29 | 7.4 | 1.12 | 28.4 |
| .40 | 10.2 | 1.13 | 28.7 |
| .47 | 11.9 | 1.88 | 47.75 |

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are $\pm .010$ (0.25mm) for three-place decimals and $\pm .03$ (0.8 mm) for two-place decimals.
4. Shape of coil lug (solder) terminals optional; however, they must accommodate two no. 22 AWG wires.
5. Glaze finish on ceramic insulators is optional.
6. M83725/18-002 and -003 mounted by 0.52 (13.2 mm) diameter of body of coil housing or by 0.66 (16.8mm) diameter lip in center of relay.

FIGURE 1. Relay configurations - Continued.

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REQUIREMENTS:

CONTACT DATA:

Configurations: SPST NC.

Arrangement: One form B.

Load ratings:

Nonswitching (carry only):

8 amperes, dc.

12 amperes rms, 60 Hz.

10 amperes rms, 2.5 MHz.

5 amperes rms, 15 MHz.

2 amperes rms, 30 MHz.

5 amperes rms, 32 MHz (-003 only).

Interrupt rating (resistive load only) for 10,000 operations:

DC: 1 kilowatt maximum, 1 ampere rms maximum.

AC: 2 kilowatts maximum, 2 amperes rms maximum from 1 kHz to 30 MHz.

Rated operating voltage:

7.5 kilovolts (dc or peak ac), 60 Hz.

7.5 kilovolts peak, 2.5 MHz.

7 kilovolts peak, 16 MHz.

5 kilovolts peak, 30 MHz.

Relay case grounded: Applicable.

Contact resistance:

Rated life:

Before: .05 ohm, maximum.

During: .100 ohm, maximum.

After: .100 ohm, maximum.

Capacitance:

1.6 picofarads, maximum across open contacts.

2.0 picofarads, maximum from open contact to ground.

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Coil data:

Duty rating: Continuous.

Maximum voltage: 32 V dc.

Rate voltage: 26.5 V dc.

Pickup voltage: 22 V dc maximum over temperature range.
16 V dc maximum at +25 °C .

Dropout voltage: 10 V dc maximum; 1.0 V dc minimum over temperature range.

Coil resistance: 920 ohms \pm 10 percent at +25 °C .

Operating time: 12 milliseconds maximum, at 26.5 V dc at +25 °C .

Release time: 12 milliseconds maximum (including bounce) at +25 °C .

Electrical data:

Dielectric withstanding voltage:

At atmospheric pressure:

Between contacts in the open position: 8 kilovolts peak, 60 Hz.

Between high voltage terminals and housing: 8 kilovolts peak, 60 Hz.

Between coil and housing: 500 V rms, 60 Hz.

Environmental data:

Temperature range: -55 °C to +125 °C .

Vibration: MIL-STD-202, method 204, test condition B, except 10G from 10 to 1,000 Hz (-003 only 5 g from 1,000 Hz to 2,000 Hz).

Shock: MIL-STD-202, method 213, test condition J.

Physical:

Terminal strength: 5 \pm 0.5 pounds pull.

Marking: Applicable; circuit diagram included on label.

Weight: 0.9 ounce maximum.

Life test requirements:

Mechanical cycling: 2,000,000 operations. Two sample units (maximum rate 36,000 per hour)
Contact current shall not exceed 10 milliamperes.

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Shelf life: (accelerated): Applicable.

Quality assurance:

Dielectric withstanding voltage:

Tests to be conducted at atmosphere pressure rating only.

Duration of application: 5-10 seconds at a 10 percent increase in the dielectric withstanding voltage.

Part number: See table I.

TABLE I. Part number and characteristic.

| Part number | Figure and mount |
|---------------|------------------|
| M83725/18-001 | 1 Flange |
| M83725/18-002 | 2 Sleeve mount |
| M83725/18-003 | 3 Sleeve mount |

Referenced documents. In addition to MIL-R-83725, this document references the following:

MIL-STD-202

Changes from previous issue: Marginal notations are mark 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 last previous issue.

Custodian:

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DLA - CC

Preparing activity:
DLA - CC

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