

INCH-POUND

MIL-R-83725/18B(USAF)
27 October 1990
SUPERSEDING
MIL-R-83725/18A(USAF)
26 November 1986

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.

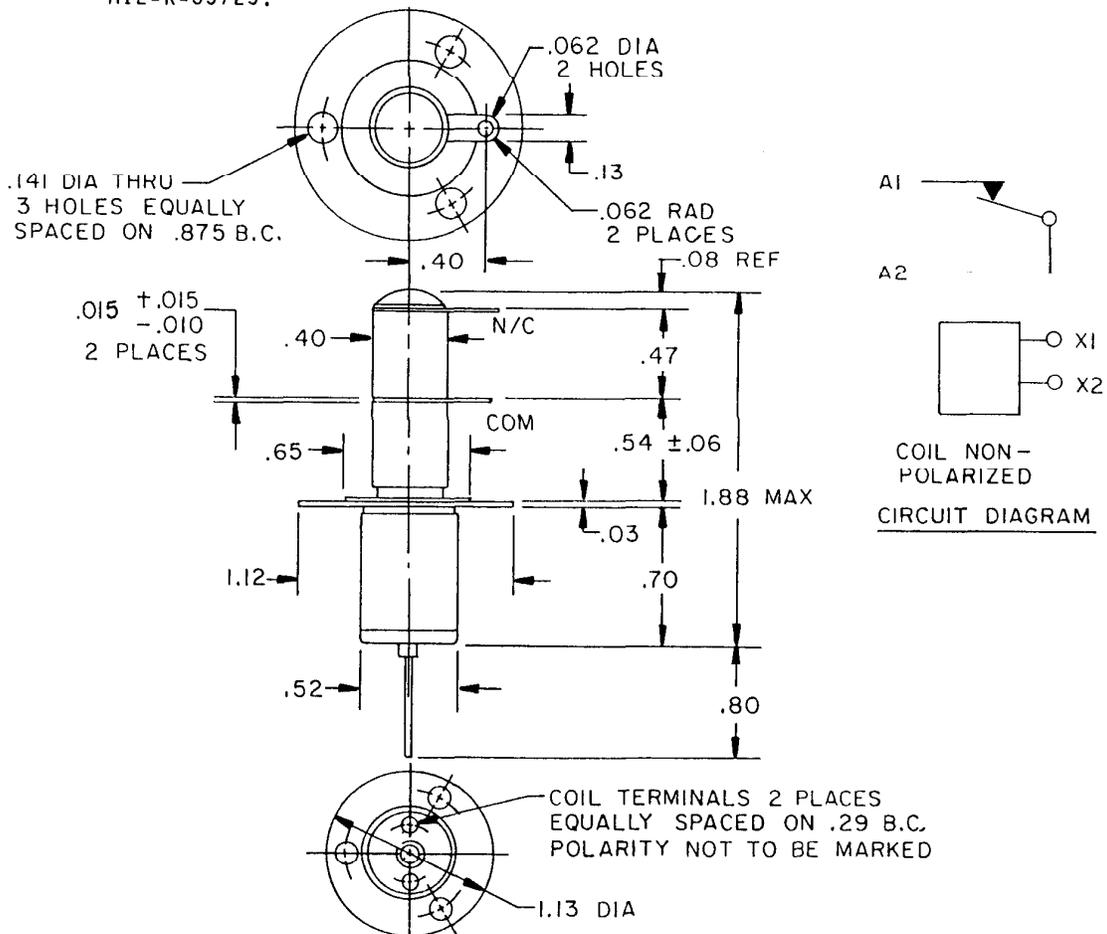
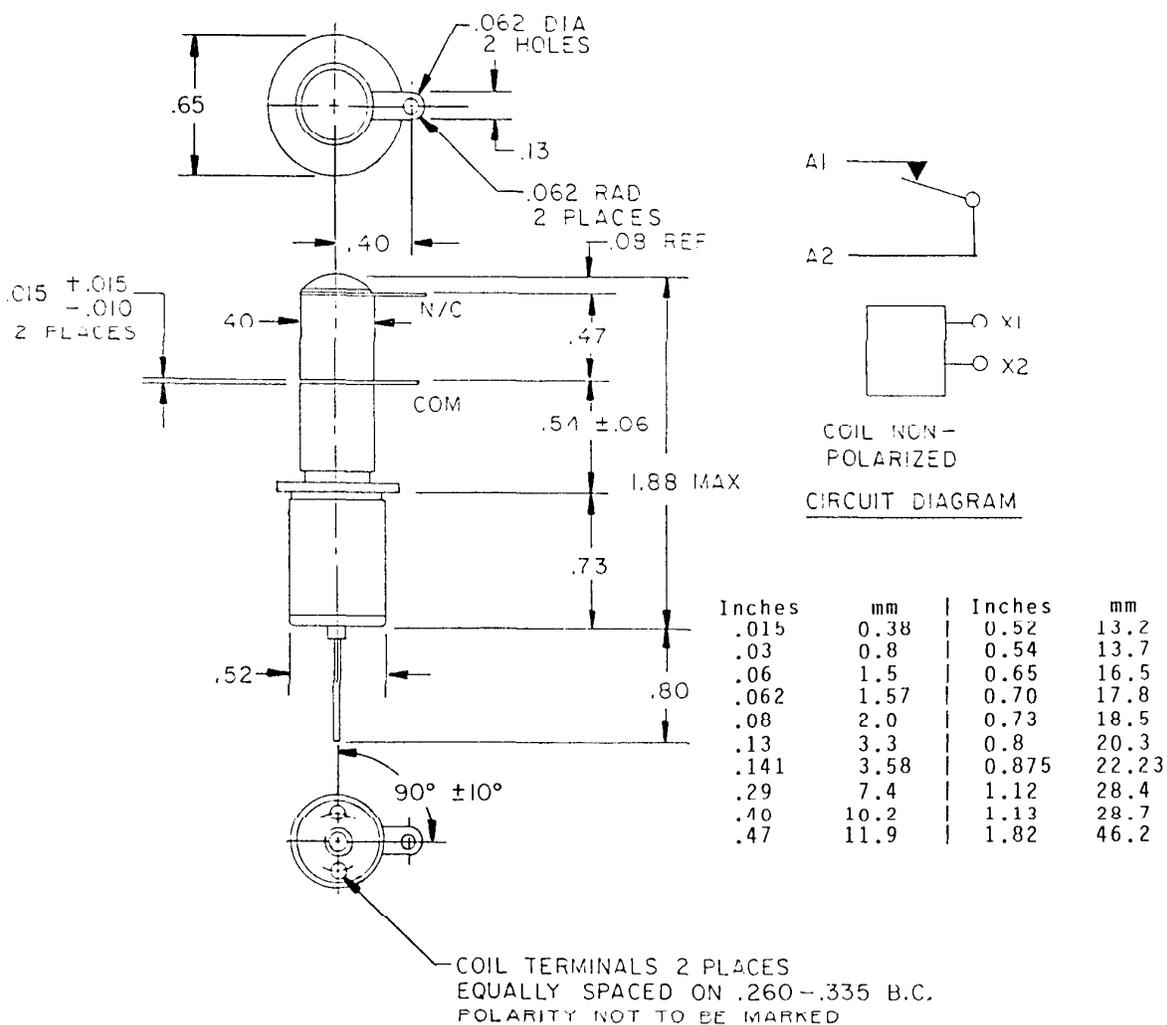


FIGURE 1. Relay configurations.

denotes changes

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NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ±.010 (0.25 mm) for three-place decimals and ±.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 (16.8 mm) diameter lip in center of relay.

Ⓑ FIGURE 1. Relay configurations - Continued.

REQUIREMENTS:

Contact data:

Configuration: 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.

Coil data:

Duty rating: Continuous.

Maximum voltage: 32 V dc.

Rated voltage: 26.5 V dc.

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

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

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

Operate 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 10 G 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.

Shelf life: (accelerated): Applicable.

Quality assurance:

Dielectric withstanding voltage:

Tests to be conducted at atmospheric pressure rating only.

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

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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	2 Sleeve mount

CONCLUDING MATERIAL

Custodian:
Air Force - 85

Review activity:
DLA - ES

Preparing activity:
Air Force - 85

Agent:
DLA - ES

(Project 5945-F716)