

MILITARY SPECIFICATION SHEET

RELAYS, VACUUM, SPST, N/O, 12 AMPERES  
 DC OR 60 Hz RMS, 3.6 KILOVOLTS PEAK

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 relays described herein shall consist of this specification and the latest issue of MIL-R-83725.

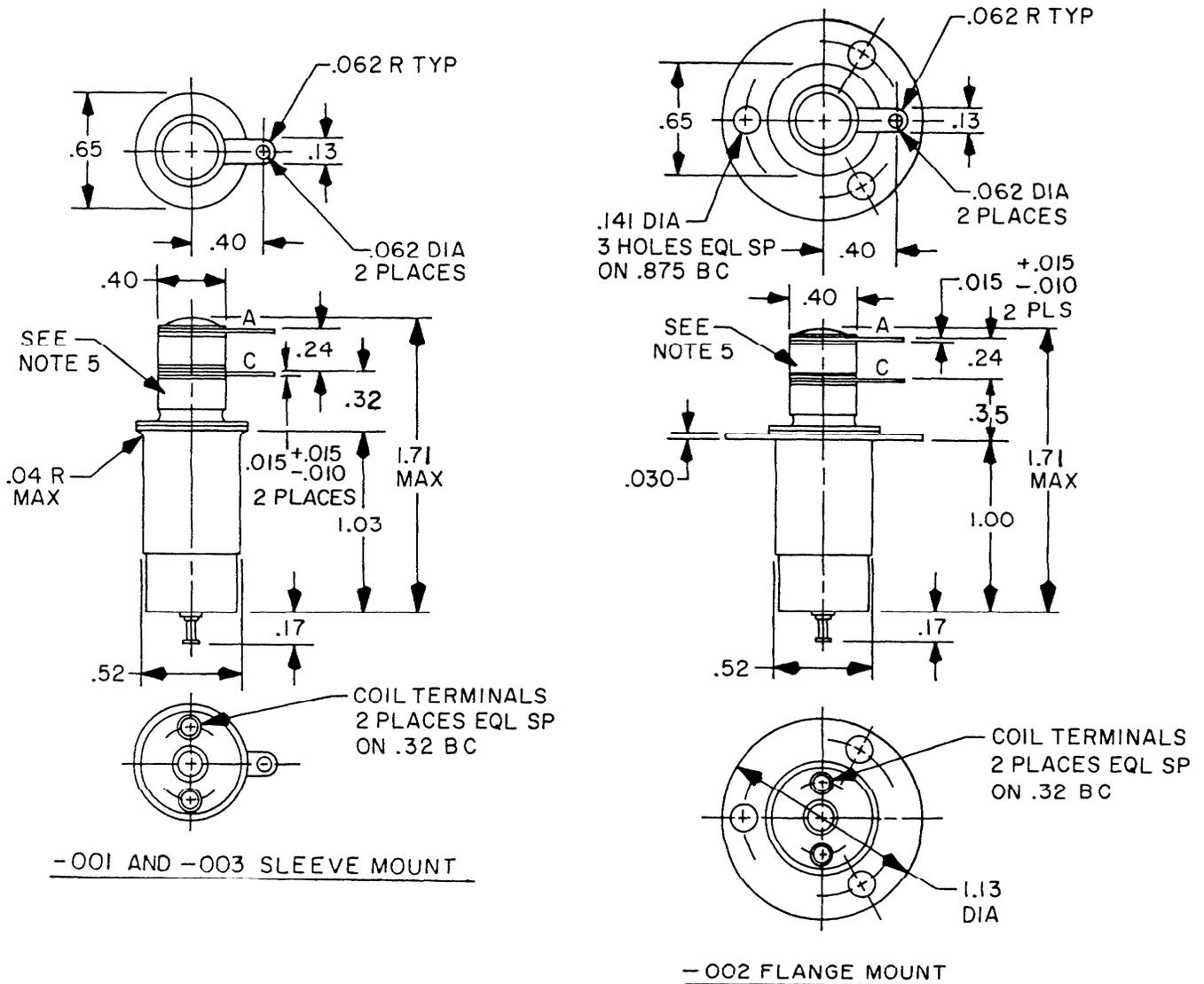
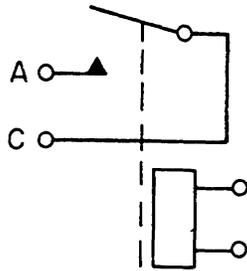


FIGURE 1. Relay, dimensions and configurations.

(B) denotes changes



(COIL DENEGRIZED)  
CIRCUIT DIAGRAM

Inches	mm	Inches	mm	Inches	mm
.015	0.38	.17	4.32	0.65	16.5
.03	0.76	.24	6.10	0.875	22.2
.04	1.02	.32	8.13	1.00	25.4
.062	1.57	.35	8.89	1.03	26.2
.13	3.30	.40	10.2	1.13	28.7
.141	3.58	.52	13.2	1.71	43.4

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are  $\pm 0.010$  (0.25 mm) for three-place decimals and  $\pm 0.03$  (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. Glazed finish on ceramic insulators is optional.
6. M83725/8-001 and -003 mounted by 0.52 inch (13.2 mm) diameter of body of coil housing or by 0.65 inch (16.5 mm) diameter lip in center of relay.

FIGURE 1. Relay, dimensions and configurations - Continued.

REQUIREMENTS:

Contact data:

Configuration: SPST, N/O, ground isolated.

Arrangement: 1 form A.

Load ratings:

Resistive (carry only):

- 12 amperes dc or 60 Hz rms.
- 10 amperes rms, 2.5 MHz (-001 and -002).
- 6 amperes rms, 16 MHz.
- 8 amperes rms, 16 MHz (-003).

Rated operating voltage:

- 3.6 kilovolts peak, 60 Hz or dc.
- 3.6 kilovolts peak, 2.5 MHz.
- 3.2 kilovolts peak, 16 MHz.
- 4.0 kilovolts peak, 2.5 MHz (-003).

Contact resistance:

Rated life:

- Before: .020 ohm, maximum.
- During: .100 ohm, maximum.
- After: .100 ohm, maximum.

Capacitance:

- 1.6 picofarads, maximum across open contacts.
- 1.6 picofarads, maximum between open contacts and ground.

Coil data:

Duty rating: Continuous.

Maximum voltage: 32 V dc.

Nominal voltage: 26.5 V dc.

Pickup voltage: 22 V dc, maximum over temperature range.

Dropout voltage: 1 V dc, minimum over temperature range.

Coil resistance: 290 ohms  $\pm$ 10 percent.

Operate time: 10 milliseconds, maximum over temperature range (includes contact bounce time).

Release time: 10 milliseconds, maximum over temperature range.

Electrical data:

Insulation resistance: 1,000 megohms, minimum, except the resistance between coil and housing at high temperature shall be 500 megohms or greater.

Dielectric withstanding voltage:

At atmospheric pressure: 60 Hz.

Between all mated contacts in the open position: 4 kV peak.

Between high voltage terminals and housing: 4 kV peak.

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

Ground isolated: Ground isolated relays have operating elements insulated from the ground plane to provide absolute voltage isolation between the frame and the high voltage contacts.

Environmental data:

Temperature range: -55°C to +125°C.

Vibration: MIL-STD-202, method 204, test condition C (10-55 Hz, .06 inch DA/55-2000 Hz, 10 g).

Shock: MIL-STD-202, method 213, test condition J, 30 g, 11 milliseconds, half sine.

Physical:

Terminal strength: 5 pounds pull.

Dimensions and configuration: See figure 1.

Termination: Solder terminal.

Weight: 1 ounce, maximum.

Life test requirements:

Mechanical cycling: 1,000,000 cycles. Two sample units (cycling rate, 36,000 per hour maximum; contact current shall not exceed 10 milliamperes).

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.

Part number: M83725/8 and a dash number from table I .

TABLE I. Part number and characteristics.

Military part number	Mount
M83725/8-001	Sleeve
M83725/8-002	Flange
M83725/8-003	Sleeve

MIL-R-83725/8B(USAF)

Custodian:  
Air Force - 85

Review activities:  
Air Force - 99  
DLA - ES

Preparing activity:  
Air Force - 85

Agent:  
DLA - ES

(Project 5945-F644-3)