

DETAIL SPECIFICATION SHEET

RELAYS, VACUUM, SPST, N. O., 12 AMPERES DC,
 OR 60 HZ RMS, 10 KILOVOLTS PEAK DC

This specification is approved 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-DTL-83725](#)

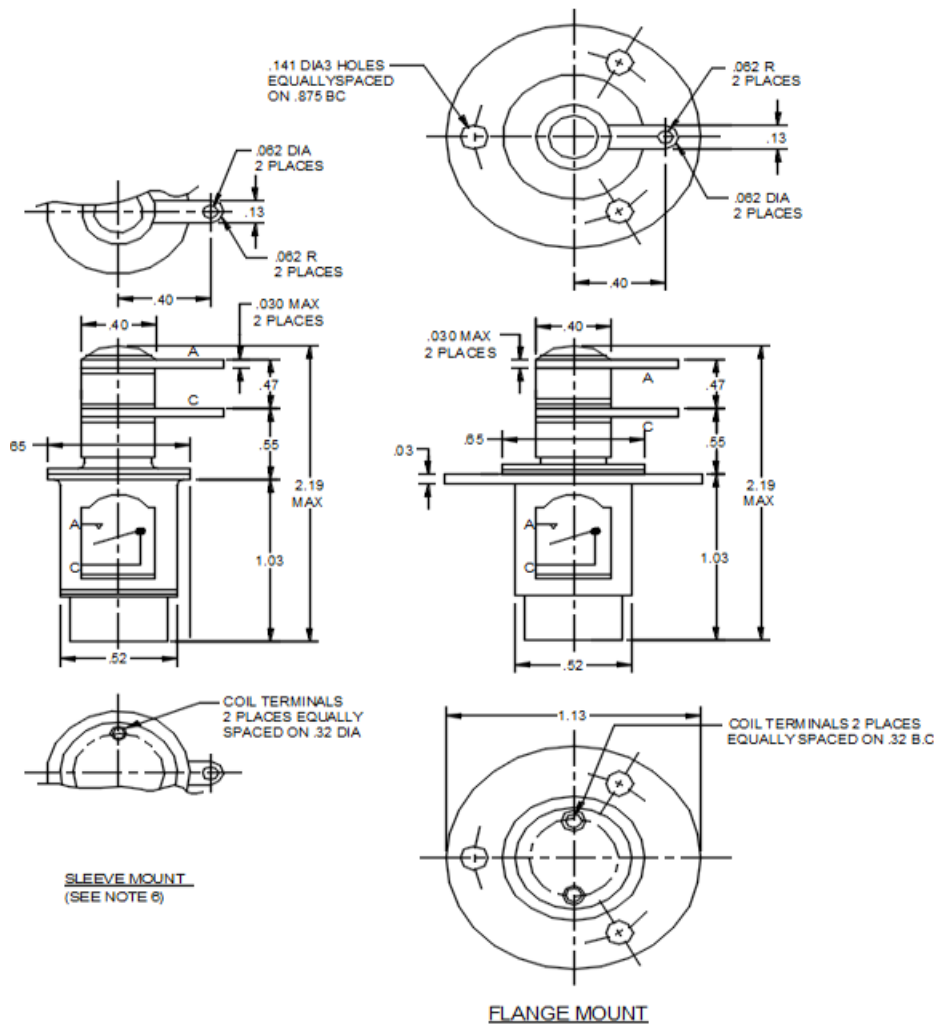
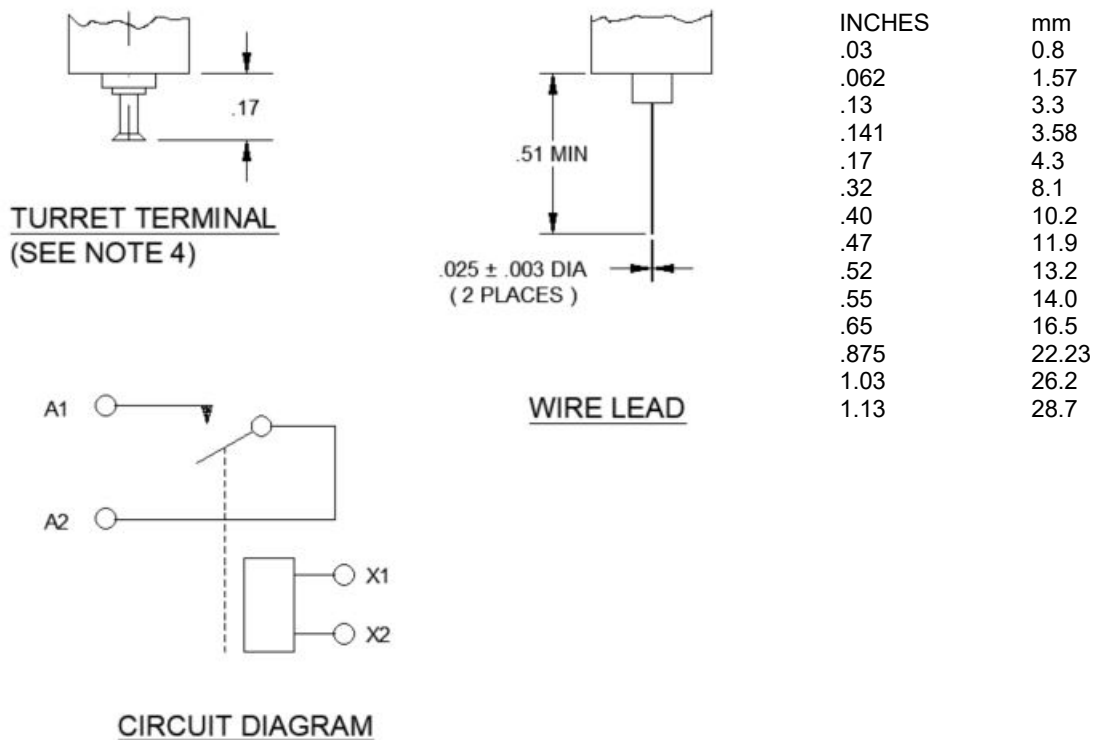


FIGURE 1. Relay dimensions and configurations.





NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are $\pm .010$ (0.25 mm) for three place decimals and $\pm .03$ (0.8 mm) for two place decimals.
4. Shape of turret terminals optional, however they shall accommodate two No. 22 AWG wires as a minimum.
5. Glazed finish of ceramic insulator is optional.
6. Sleeve mount relays mounted by .52 inch (13.2 mm) diameter of body of coil housing or by .65 inch (16.5 mm) diameter in center of relay.

FIGURE 1. Relay dimensions and configurations - Continued.

REQUIREMENTS:

CONTACT DATA:

Configuration: SPST, N/O.

Arrangement: 1 form A.

Load ratings:

Resistive: (carry only).

12 amperes dc or 60 Hz rms.

10 amperes rms, 2.5 MHz.

6 amperes rms, 16 MHz.

Rated operating voltage:

10 kilovolts peak dc or 60 Hz rms.

7 kilovolts peak, 2.5 MHz.

6 kilovolts peak, 16 MHz.

Contact resistance:

Rated Life:

Before: .020 ohm, maximum.

During: .100 ohm, maximum.

After: .100 ohm, maximum.

Contact bounce: Not applicable.

Capacitance:

1.6 pF, maximum across open contacts.

1.6 pF, maximum between common and frame.

COIL DATA: (See [table I](#))

Duty rating: Continuous.

Operate time: 15 milliseconds, maximum over temperature range.

Release time: 15 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: 12 kV peak.

Between high voltage terminals and housing: 12 kV peak.

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

ENVIRONMENTAL DATA:

Temperature range: -55°C to +125°C.

Vibration: [MIL-STD-202-204](#), test condition C (10-55 Hz, .06 inch DA/55-2000 Hz, 10 G's)

Shock: [MIL-STD-202-213](#), test condition J, 30 G's. 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).

TABLE I. Dash numbers and characteristics.

Dash number M83725/17-	Coil data (V dc)		At 25°C				Over temperature range			Mounting	Terminal type
	Nominal <u>1/</u>	Maximum	Coil resistance Ohms ±10%	Pickup Voltage (V dc)	Hold voltage (V dc)	Drop-out voltage (V dc)	Pick-up voltage (V dc)	Hold voltage (V dc)	Dropout voltage (V dc)		
001	26.5	32	290	16	10	1.0	22	14	0.7	Sleeve	Turret
002	"	"	"	"	"	"	"	"	"	Flange	"
003	"	"	"	"	"	"	"	"	"	Sleeve	Wire
004	"	"	"	"	"	"	"	"	"	Flange	"
005	12	16	70	8.0	5.0	0.5	11	7.0	0.3	Sleeve	Turret
006	"	"	"	"	"	"	"	"	"	Flange	"
007	"	"	"	"	"	"	"	"	"	Sleeve	Wire
008	"	"	"	"	"	"	"	"	"	Flange	"

1/ CAUTION: Use of any coil voltage less than nominal coil voltage will compromise the operation of the relay.

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: M83725/17- (Dash number from [table I](#)).

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-83725](#), this document references the following:
[MIL-STD-202-204](#) [MIL-STD-202-213](#)

Custodians:
 Army - CR
 Navy – AS
 Air Force - 85
 DLA-CC

Preparing activity:
 DLA-CC

Review activity:
 Navy – OS

(Project 5945-2022-043)

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/>.