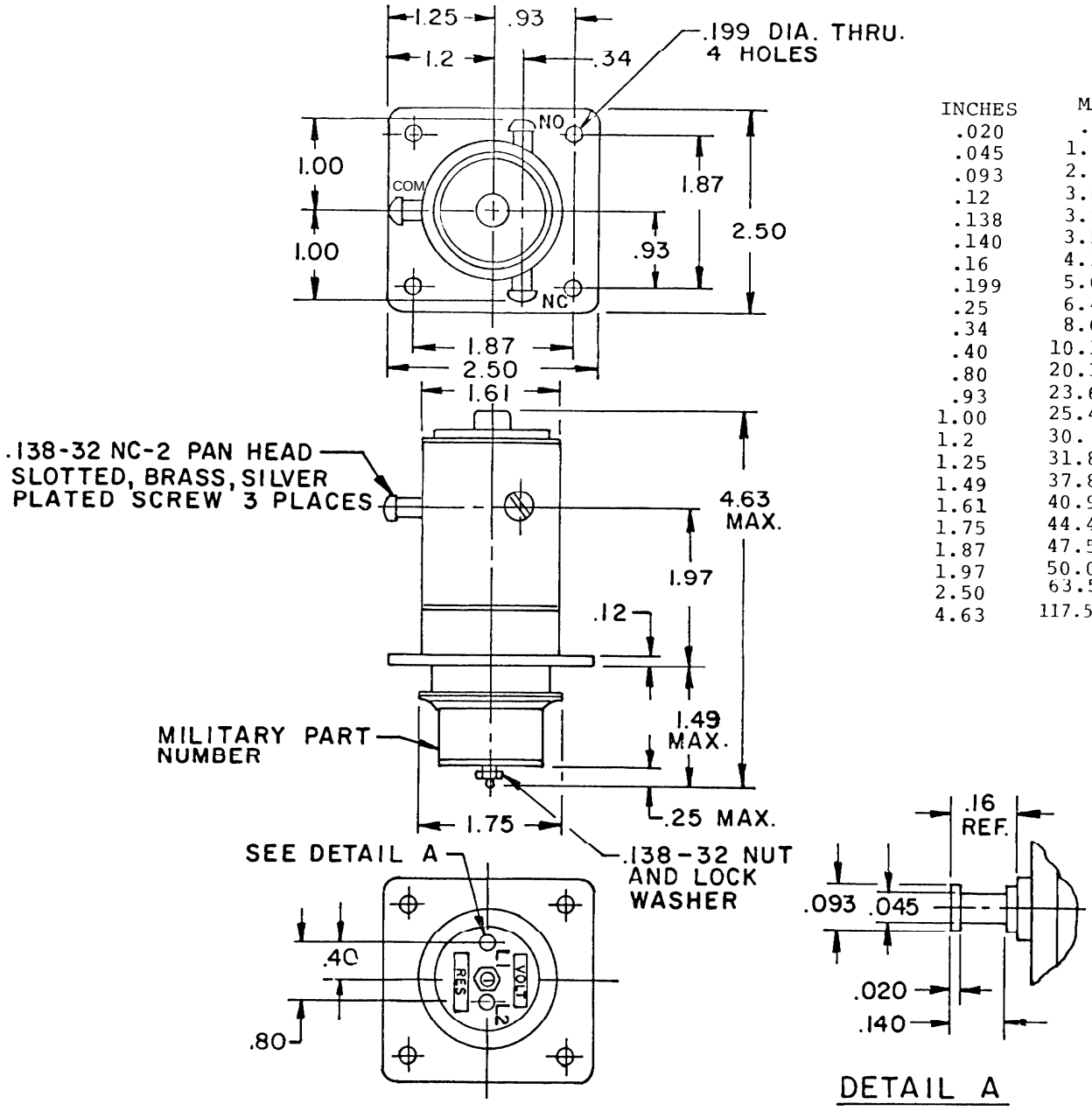
MILITARY SPECIFICATION SHEET

RELAYS, VACUUM, SPDT, 75 AMPERES RMS, 15 KILOVOLTS (PEAK) OR DC

This specification sheet is approved for use by the Air Force Acquisition Logistics Division, Electronic Support Division (AFALD/PTES), Department of the Air Force, and is available for use by all Departments and Agencies of the Department of Defense.

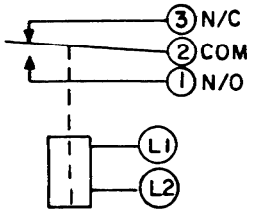
The complete requirements for procuring the relays described herein shall consist of this document and the latest issue of Specification MIL-R-83725.



INCHES	MM
.020	.51
.045	1.14
.093	2.36
.12	3.0
.138	3.51
.140	3.56
.16	4.1
.199	5.05
.25	6.4
.34	8.6
.40	10.16
.80	20.32
.93	23.6
1.00	25.4
1.2	30.
1.25	31.8
1.49	37.8
1.61	40.9
1.75	44.4
1.87	47.5
1.97	50.0
2.50	63.5
4.63	117.5

FIGURE 1. Dimensions and configuration.

Ⓑ denotes changes



CIRCUIT DIAGRAM

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.
3. Unless otherwise specified, tolerances are ±.010 (.25 mm) for three place decimals and ±.02 (.5 mm) for two place decimals.
4. Military part number shall be permanently marked on the relay coil housing.
5. N/O, N/C and Com to be stamped on plate below corresponding terminal.

FIGURE 1. Dimensions and configurations - Continued.

REQUIREMENTS:

CONTACT DATA:

Configuration: SPDT, ground isolated.
Arrangement: 1 form C.
Load ratings:
Continuous carry, resistive:
75 amperes r ms, dc or 60 Hz.
22 amperes r ms, 2.5 MHz.
15 amperes r ms, 16 MHz.

Make and break resistive:

9 kilovolts or 5 amps dc or 60 Hz maximum.
45 kilowatts maximum.

Voltage ratings, (continuous):
15 kilovolts peak, dc or 60 Hz.
13 kilovolts peak, 2.5 MHz.
10 kilovolts peak, 16 MHz.

Contact Resistance:
Rated Life:
Before: .012 ohm, maximum.
During: .10 ohm, maximum.
After: .10 ohm, maximum.

Capacitance:
1.8 picofarads, maximum across open contacts.
1.5 picofarads, maximum between open contacts and ground.

COIL DATA:

Duty rating: Continuous.
Coil voltage: See table I.
Pickup voltage: See table I.
Dropout voltage: See table I.
Coil resistance: See table I.
Operate time: 30 milliseconds, maximum.
Release time: 10 milliseconds, maximum.

ELECTRICAL DATA:

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

Dielectric withstanding voltage at atmospheric voltage:

Between all mated contacts in the open position, 20 kilovolts peak, 60 Hz or dc.

Between high voltage terminals and housing 20 kilovolts, 60 peak Hz or dc.

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

ENVIRONMENTAL DATA:

Temperature range: -55° to +125°C.
Shock: MIL-STD-202, method 213, test condition J.

PHYSICAL:

Terminal strength: 5 pounds pull.
Dimensions and configuration: See figure 1.
Termination: Screw.
Weight: 16 ounces, maximum.

LIFE TEST REQUIREMENTS:

Load Life: 20,000 cycles, 2 sample units, maximum cycling rate 20 per minute 9 kilowatts dc and 5 amperes dc make and break resistive. After test common to base, resistance shall be 500 megohms minimum.

Mechanical cycling: 100,000 cycles, 2 sample units (maximum cycling rate, 36,000 per hour; 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: See table I.

Ⓑ TABLE I. Part number and characteristics.

Military part number	Coil voltage V dc	Pick up voltage V dc max	Dropout voltage V dc	Coil resistance ±10%
M83725/15-001	6	4	.2 - 2.7	12
M83725/15-002	12	9	.5 - 5.8	52
M83725/15-003	26.5	16	1 - 10	225
M83725/15-004	48	33	1 - 20	735
M83725/15-005	115	70	2 - 40	3900

Custodian:
Air Force - 85

Review activities:
Air Force - 11, 99
DLA - ES

Preparing activity:
Air Force - 85

(Project 5945-F536)