

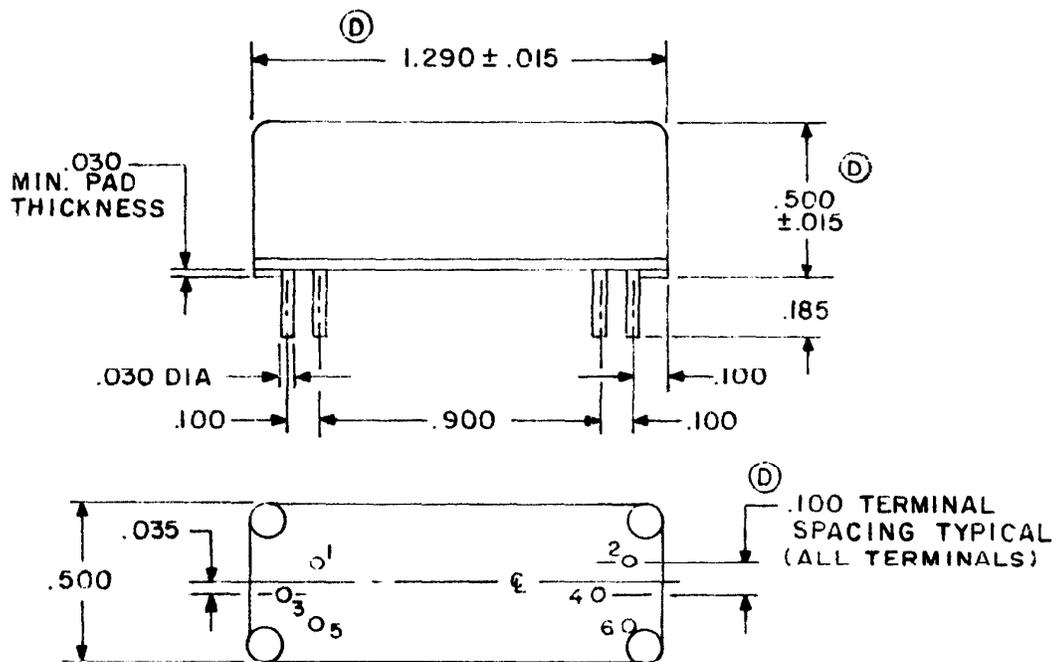
MILITARY SPECIFICATION SHEET

RELAYS, ELECTRICAL, 1 PST TO 4 PDT CONTACTS
LOW-LEVEL TO 1/2 AMPERE (DRY REED)

Inactive for new design after 22 July 1985
No superseding specification.

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

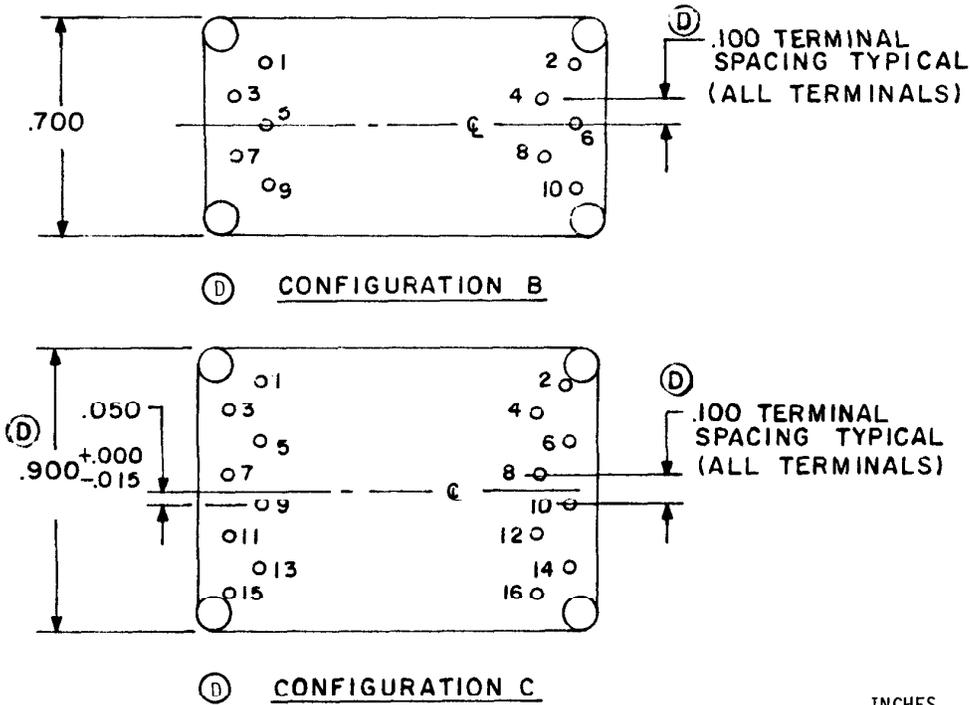
The complete requirements for acquiring the relays described herein shall consist of this specification and the latest issue of MIL-R-5757.



(D) CONFIGURATION A

FIGURE 1. Dimensions and configuration.

(D) denotes changes



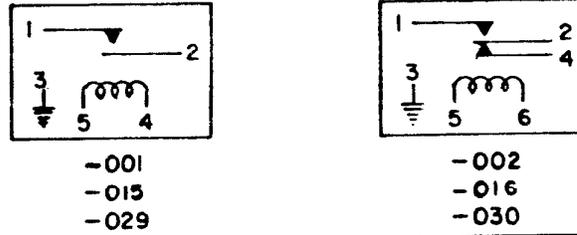
INCHES	MM
.000	0.00
.015	0.38
.030	0.76
.035	0.89
.050	1.27
.100	2.54
.185	4.70
.500	12.70
.700	17.78
.900	22.86
1.290	32.77

NOTES:

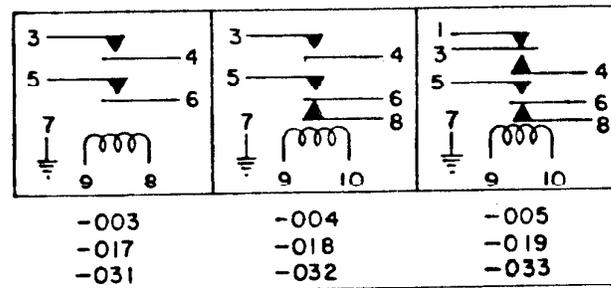
1. Dimensions are in inches.
2. Unless otherwise specified, tolerances are $\pm .005$.
3. Metric equivalents are given for general information only.
4. Views shown on configurations B and C are for header configuration only. See configuration A for case and terminal dimensions.

FIGURE 1. Dimensions and configuration - Continued.

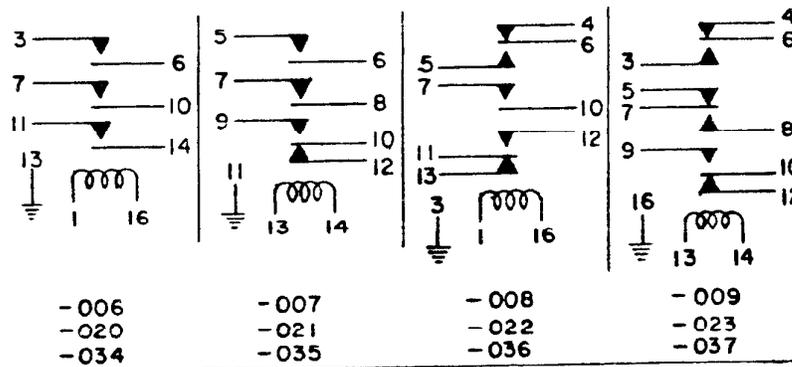
SINGLE POLE



DOUBLE POLE



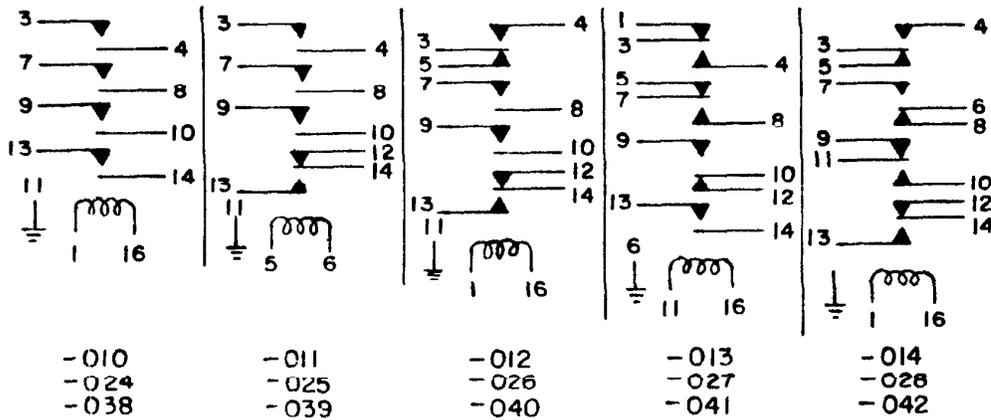
TRIPLE POLE



SCHEMATIC DIAGRAMS

FIGURE 2. Schematic diagrams.

FOUR POLE



SCHEMATIC DIAGRAMS

NOTES:

1. Figures shown next to the capsule and coil terminals refer to the pin arrangement diagrams and are for reference only.
2. Magnetic and electrostatic shielding connection is made to the ground-pin indicated in these diagrams.

FIGURE 2. Schematic diagrams - Continued.

REQUIREMENTS:

CONTACT DATA:

Configuration: 1PST to 4PDT.

Arrangement: See table III.

Load ratings, (relay case grounded): See table II.

Minimum current: 10 mA at 12 V dc max.

Contact resistance:

Rated life:

Before: 0.20 ohm max.

Ⓓ During: 4 ohms max. 2/

Ⓓ After: 4 ohms max. 2/

Minimum current:

Before: 0.20 ohm max.

Ⓓ During: 4 ohms max. 2/

Ⓓ After: 4 ohms max. 2/

Contact bounce: 1 millisecond (ms) max.

Contact noise: Applicable. 1/

Capacitance: 2 picofarads max.

Overload:

Resistive: 2 times rated current.

COIL DATA:

Duty rating: Continuous.

Nominal voltage: See table III.

Pickup voltage: See table I.

Dropout voltage: See table I.

Coil resistance: See table III.

Operate time: Including bounce (see table I).

Release time: Including bounce (see table I).

ELECTRICAL DATA:

Insulation resistance: 10,000 megohms from contact to contact and from contact to case.

1/ Test shall not be made on relays since tests are conducted on switch capsules (MIL-S-55433).

Ⓓ 2/ Load conditions shall be at rated coil current and voltage.

Dielectric withstanding voltage:

- Between case, frame, or enclosure and all contacts:
- Between case, frame, or enclosure and coil:
- Between all contacts and coil:
- Between open contacts in the energized and unenergized positions:
- Between contact poles:

Sea level	Altitude
500 V	200 V
500 V	200 V
500 V	200 V
250 V	200 V
500 V	200 V

Magnetic shielding: Applicable.

Electrostatic shielding: Applicable.

ENVIRONMENTAL DATA:

- Temperature range: Symbol A (-55°C to +85°C).
- Vibration: Symbol 4 (20 G, 10 to 2,000 Hz).
- Seal: Enclosure 3, test I.
- Magnetic interference: Applicable, adjacent-similar-relay.
- Shock: Symbol 3 (100 G).
- Contact sticking: Applicable.
- Resistance to solder heat: Applicable.
- Ⓣ Cross talk: Attenuation 20 dB at 10 MHz (megahertz).
- Coil life: Not applicable.

PHYSICAL DATA:

- Terminal strength: 2 pounds axial pull.
- Terminal solderability: Applicable.
- Sealed by welding: Not applicable.
- Dimensions and configuration: See figure 1.
- Termination: Pin type (PC).
- Marking: See figure 1.
- Weight:
 - 1 pole - 12 grams max.
 - 2 pole - 18 grams max.
 - 3 pole - 22 grams max.
 - 4 pole - 24 grams max.

MIL-R-5757/29D

LIFE TEST REQUIREMENTS:

High level: See table II for number of operations and cycling rate.

Low level: See table II.

Minimum current: 20,000,000 operations at 900 to 1,200 operations per minute.

① Quality conformance inspection:

Periodic inspection: Groups B and C inspections are not required.

QUALITY ASSURANCE:

Group A:

Subgroup 1: Applicable for low level loads only at a rate of approximately 60 operations.

Subgroup 2: 100 percent.

Dielectric withstanding voltage: Test to be conducted at sea level rating only. Duration of application shall be 5 to 10 seconds at a 10 percent increase in the dielectric strength voltage.

① TABLE I. Qualification inspection and sample size.

Single Submission	Group Submission	
30 units plus 1 open unit Table VIII Groups I through VI	M5757/29-012 M5757/29-026 M5757/29-040	14 units plus 1 open unit 8 units 8 units Table VIII Group I -- after the group I tests, the above units will be divided and tested as follows:
	M5757/29-012 M5757/29-026 M5757/29-040	2 units for each group 1 unit for each group 1 unit for each group Table VIII Groups I, II, III, IV and V
	M5757/29-012 M5757/29-026 M5757/29-040	6 units 4 units 4 units Table VIII Group VI
	M5757/29-002 M5757/29-005	2 units each P/N Table VIII Group I Group II vibration only Group III shock, terminal strength and seal only
	All other part numbers	2 units each P/N Table VIII Group I

① TABLE II. Data.

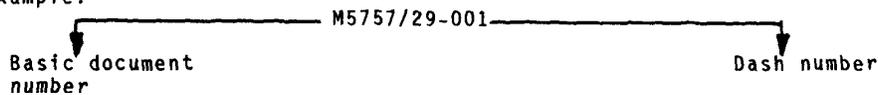
Nominal voltage	Coil voltage		
	6.0	12.0	26.5
Pickup voltage - max (dc)	4.0	8.0	18.0
Dropout voltage - min (dc)	0.8	1.0	2.5
Coil resistance - ohms	See table III		
Operate time (max) including bounce (in milliseconds) at 25°C	1 ms	1 ms	1 ms
	2 ms	2 ms	2 ms
Dropout time (max) including bounce (in milliseconds) over temperature range	1 ms	1 ms	1 ms

① TABLE III. Load ratings.

Load current (amperes)	Resistive load (millions of operations)		Cycling rate operations/sec.
	12 V	28 V	
.50	1	0.5	3-5/sec
.25	10	5	15-20/sec
0.010 (low level)	100 at 50 mV dc or peak ac		60 (app.)

Part number: Consists of the basic number of this specification sheet and a dash number.

Example:

① TABLE IV. Part numbers and characteristics. 1/

Part no. M5757/29	Nominal coil voltage	Coil resistance ohms ±10%	No. of poles	No. of capsules (contact arrangement)		Case size pin arrangement figure
				Form A	Form C	
-001	26.5	2350	1	1	0	1
-002	"	1450	1	0	1	1
-003	"	925	2	2	0	2
-004	"	925	2	1	1	2
-005	"	925	2	0	2	2
-006	"	650	3	3	0	3
-007	"	650	3	2	1	3
-008	"	650	3	1	2	3
-009	"	650	3	0	3	3
-010	"	460	4	4	0	3
-011	"	460	4	3	1	3
-012	"	460	4	2	2	3
-013	"	460	4	1	3	3

See footnote at end of table.

① TABLE IV. Part numbers and characteristics - Continued. 1/

Part no. M5757/29	Nominal coil voltage	Coil resistance ohms ±10%	No. of poles	No. of capsules (contact arrangement)		Case size pin arrangement figure
				Form A	Form C	
-014	26.5	460	4	0	4	3
-015	12	420	1	1	0	1
-016	"	420	1	0	1	1
-017	"	280	2	2	0	2
-018	"	185	2	1	1	2
-019	"	185	2	0	2	2
-020	"	130	3	3	0	3
-021	"	130	3	2	1	3
-022	"	130	3	1	2	3
-023	"	130	3	0	3	3
-024	"	100	4	4	0	3
-025	"	100	4	3	1	3
-026	"	100	4	2	2	3
-027	"	100	4	1	3	3
-028	"	100	4	0	4	3
-029	6	100	1	1	0	1
-030	"	70	1	0	1	1
-031	"	40	2	2	0	2
-032	"	40	2	1	1	2
-033	"	40	2	0	2	2
-034	"	30	3	3	0	3
-035	"	30	3	2	1	3
-036	"	30	3	1	2	3
-037	"	30	3	0	3	3
-038	"	22	4	4	0	3
-039	"	22	4	3	1	3
-040	"	22	4	2	2	3
-041	"	22	4	1	3	3
-042	"	22	4	0	4	3

1/ Relays possess high-level and low-level capability.

Custodians:

Army - ER
Navy - EC
Air Force - 85

Preparing activity:

Navy - EC

(Project 5945-0699)

Review activities:

Army - AT, MI, MU

User activities:

Army - AV, ME
Navy - MC

Agent:

DLA - ES