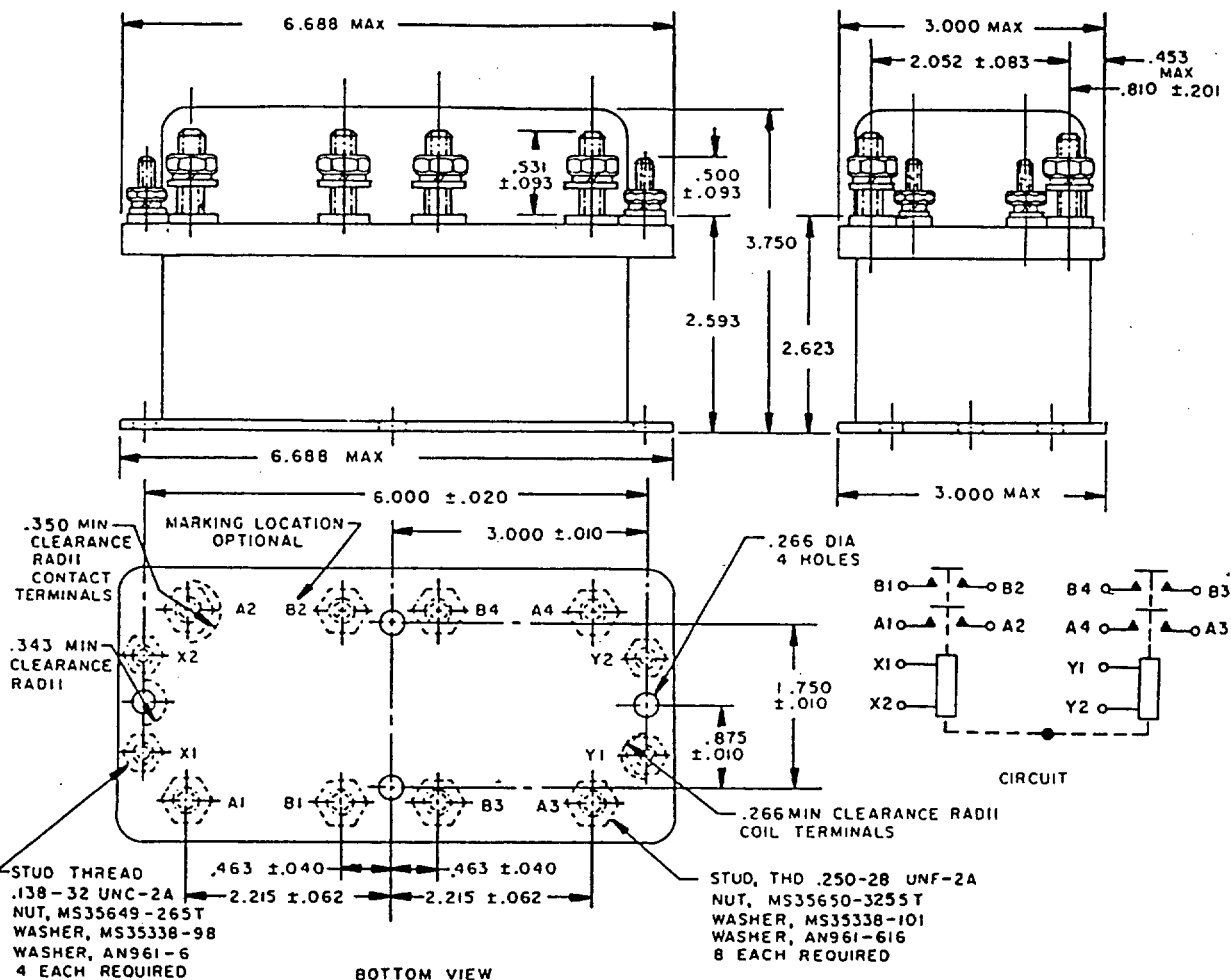


INACTIVE FOR NEW DESIGN AFTER 28 September 1990
NO SUPERSEDING STANDARD



PREPARING ACTIVITY: Air Force - 85
CUSTODIANS: ARMY - NAVY - AS
AIR FORCE - DLA -

REVIEW:
USER:
PROJECT NUMBER: 5945-0833-01

DISTRIBUTION STATEMENT

MILITARY SPECIFICATION SHEET

TITLE RELAY, ELECTROMAGNETIC,
100 AMPERES, 2PDT, N.O. TYPE II,
NONHERMETICALLY SEALED,
MECHANICALLY INTERLOCKED

SPECIFICATION SHEET NUMBER

MS25031L 28 Sep 1990

SUPERSEDING
MS25031K 31 AUG 82

AMSC N/A FSC 5945

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Page 1 of 5

THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODISS SPECIFIED IN THE SOLICITATION: MIL-R-6100.

Inches	mm	Inches	mm
.010	0.25	.500	12.70
.020	0.51	.531	13.49
.040	1.02	.810	20.57
.062	1.57	.875	22.23
.083	2.11	1.750	44.45
.093	2.36	2.052	52.12
.138	3.51	2.215	63.88
.201	5.11	2.593	65.86
.250	6.35	2.623	66.62
.266	6.76	3.000	76.20
.343	8.71	3.750	95.25
.350	8.89	6.000	152.40
.463	11.51	6.688	169.88

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ± 0.032 (0.81 mm).
4. Additional flat washer may be used for terminal seat.
5. In the event of a conflict between the text of this standard and the references cited herein, the text of this standard shall take precedence.
6. Referenced Government documents of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation form a part of this standard to the extent specified herein.
7. Terminal numbers shall not appear on relay header. There shall be affixed to the relay a suitable legible circuit diagram that identifies each terminal location.
8. Mechanical linkage shall be provided to prevent both relays being closed at the same time.

TABLE I. Dash numbers and characteristics.

Dash number	Type	Coil	Terminal type	Mounting	Maximum weight in pounds
MS25031-					
D1B	II	DC	Stud	Plate	3.5

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TABLE II. Operating characteristics.

MS		Coil data							Time - (milliseconds maximum)							
part number	Coil	Nominal		Max		Max pick-up voltage			Drop-out voltage 2/ 2/	Operate 3/ 4/	Release	Bounce				
		Volts 1/ 1/	Freq. Hz	Res Ω	Volts	Amperes	Normal 2/ 2/	High temp test				Cont current test	Hold volt- age 2/ 2/	Main	Aux.	
D1B	X1,X2 Y1,Y2	28	DC	47.5	29	.70	18	21	22.5	7.0	1.5	35	15	3.5	---	---

- 1/ CAUTION: Use of any coil voltage less than nominal coil voltage will compromise the operation of the relay.
- 2/ Over the temperature range.
- 3/ With nominal coil voltage.
- 4/ From nominal coil voltage.

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TABLE III. Rated contact load (amperes per pole) case grounded.

Type of load	Life operating cycles x 10 ³	28 V dc			115 V ac, 1 phase			115/200 V ac, 3 phase 1/					
		Main		Aux	Main		Aux	Main		Main		Aux	
		NO	NC	NO	NC	400 Hz	60 Hz	400 Hz	60 Hz	400 Hz	60 Hz	400 Hz	60 Hz
Resistive	50	100				75							
Inductive	10	80											
Inductive													
Motor	50	80				65							
Lamp													
Transfer load 2/													
Mechanical life reduced current	100	25				25							
Intermediate current													

Applicable in accordance with MIL-R-6106

1/ Absence of value indicates relay is not rated for 3 phase application.
2/ Transfer load indicates relay suitable for transfer between unsynchronized ac power supplies at rating indicated.

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Environmental characteristics

Temperature range -55°C to +71°C
 Maximum altitude rating 50,000 ft
 Shock G-level 25 g's
 Duration 6-9 ms
 Max duration contact opening 2 ms
 Vibration - sinusoidal (see chart below)
 G-level g
 Frequency range Hz
 Vibration - random
 Applicable spec N/A
 Power spectral density N/A
 RMS G min
 Frequency range N/A
 Curve
 High shock N/A
 Acceleration 10 g's

Electrical characteristics

Min insulation resistance, initial 100 megohms
 After life or environmental tests 50 megohms
 Dielectric strength (sea level) 2-5 seconds

	Initial		After life tests	
	28 V dc	115 V ac	28 V	115 V
Coil to case	1,250	N/A	1,000	N/A
Aux contacts	1,250	N/A	1,000	N/A
All other points	1,250	1,500	1,000	1,125

Dielectric strength (altitude) 1 minute

	28 V dc	115 V ac
Coil to case	500	N/A
Aux contacts	500	N/A
All other points	500	500

Max contact drop initial .150 volt
 After life test .175 volt
 Overload current (N.O.) 800 amperes
 Rupture current (N.O.) 1,000 amperes
 Duty rating Continuous
 RFI specification
 (Applicable to coil circuits of ac operated relays)

Quality conformance inspection

Performance of groups B and C tests are not applicable.

Group A acceptance reports shall be submitted to the preparing activity on a yearly basis in order to retain qualification for this military standard sheet.

Dash number	Vibration level				
	5-10 Hz	10-55 Hz	55-250 Hz	250-500 Hz	500-1500 Hz
MS25031-					
D1B	.08 DA	.06 DA	2 g's	2 g's	

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