

INCH-POUND

MS25031M
 27 November 2003
 SUPERSEDING
 MS25031L
 28 Sep 1990

DETAIL SPECIFICATION SHEET

RELAY, ELECTROMAGNETIC, 100 AMPERES, 2 PDT,
 N.O. TYPE II, NON-HERMETICALLY SEALED,
 MECHANICALLY INTERLOCKED

Inactive for new design effective 28 September 1990.
 No superseding specification.

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

The requirements for acquiring the relay described herein shall
 consist of this specification and the latest issue of MIL-PRF-6106.

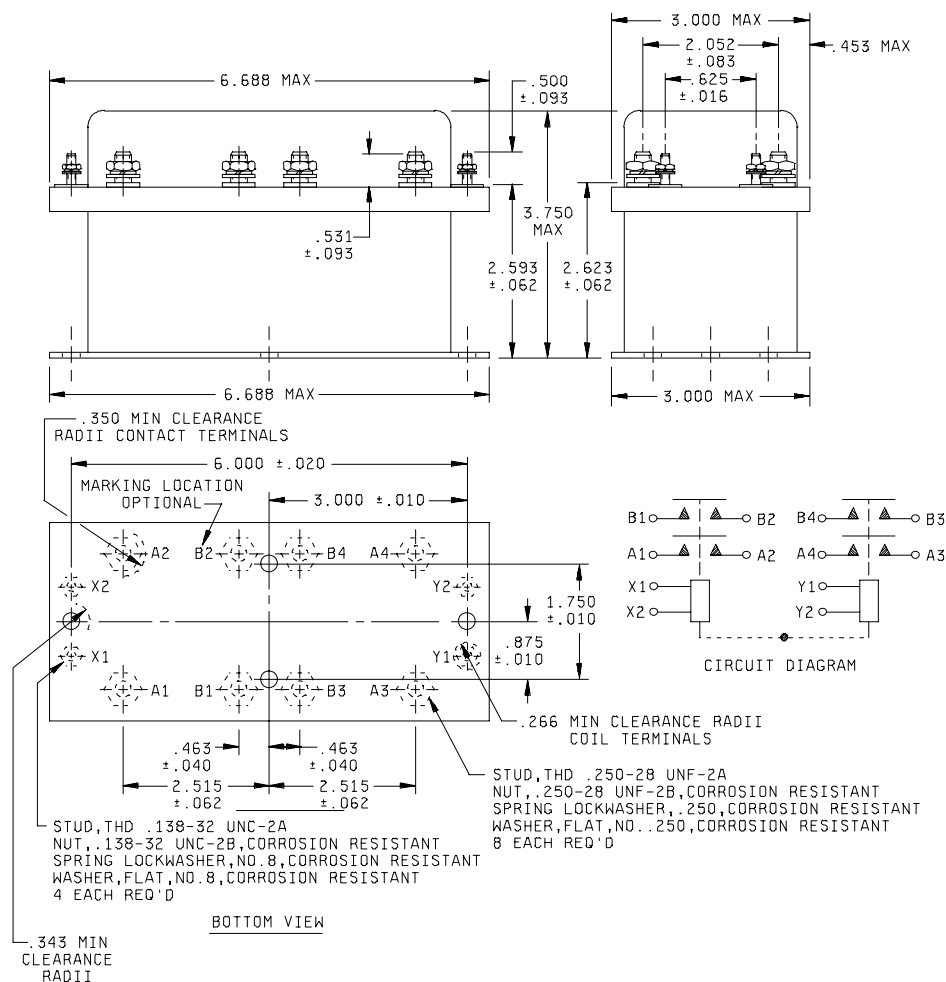


FIGURE 1. Dimensions and configurations.

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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, tolerance is ± 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 forms 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 MS25031-	Type	Coil	Terminal type	Mounting or mating socket	Max weight in pounds
D1B	II	dc	Stud	Plate	3.5

FIGURE 1. Dimensions and configurations - Continued.

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TABLE II. Operating characteristics.

PIN MS25030-	Coil data										Time - milliseconds max						
	Coil	Rated			Max		1/ Max pick-up voltage			Hold voltage 2/	Drop out voltage 2/	Ope rate 3/	Rel- ease 4/	Bounce			
		Volts 1/	Freq Hz	Ω Res	Volts	Amp	Nor- mal 2/	High temp test	Cont cur- rent test					Main		Aux	
														NO	NC	NO	NC
		D1B	X1, X2 Y1, Y2	28	dc	47.5	29	.70	18	21	22.5	7.0	1.5	35	15	3.5	N/A

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

2/ Over the temperature range.

3/ With nominal coil voltage.

4/ From nominal coil voltage.

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

Type of load	Life operat ing cycles $\times 10^3$	28 V dc				115 V ac, 1 phase				115/200 V ac, 3 phase 1/			
		Main		Aux		Main		Aux		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							
Mixed loads	50	Applicable in accordance with MIL-PRF-6106											

1/ Absence of value indicates relay is not rated for 3-phase application.

2/ Transfer load indicates relay is suitable for transfer between unsynchronized ac power supplies at rating indicated.

Environmental characteristics.

Temperature range -55°C to +71°C

Max 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

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Electrical characteristics.

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

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

Dielectric strength (altitude) 1 minute.

	<u>Initial</u>	<u>After life tests</u>
Coil to case	500	N/A
Aux contacts	500	N/A
All other points	500	500

Max contact drop initial 0.150 volt.
 After life test 0.175 volt.
 Overload current (NO) 800 amperes.
 Rupture current 1,000 amperes.
 Duty rating Continuous.
 RFI specification
 (Applicable to coil circuits of ac operated relays).

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.

Qualification by similarity: See MIL-PRF-6106.

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	

Custodians:
 Navy - AS
 Air Force - 11
 DLA - CC

Preparing activity:
 DLA - CC
 (Project 5945-1221-06)

Review activities:
 Air Force - 99
 Navy - EC

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 ASSIST Online database at www.dodssp.daps.mil.