

INCH-POUND

MS24171G  
w/AMENDMENT 1  
22 October 2004  
SUPERSEDING  
MS24171G  
15 April 2003

DETAIL SPECIFICATION SHEET

RELAYS, ELECTROMAGNETIC, 200 AMPERES, 1 PST (N.O.),  
TYPE II, NONHERMETICALLY SEALED

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.

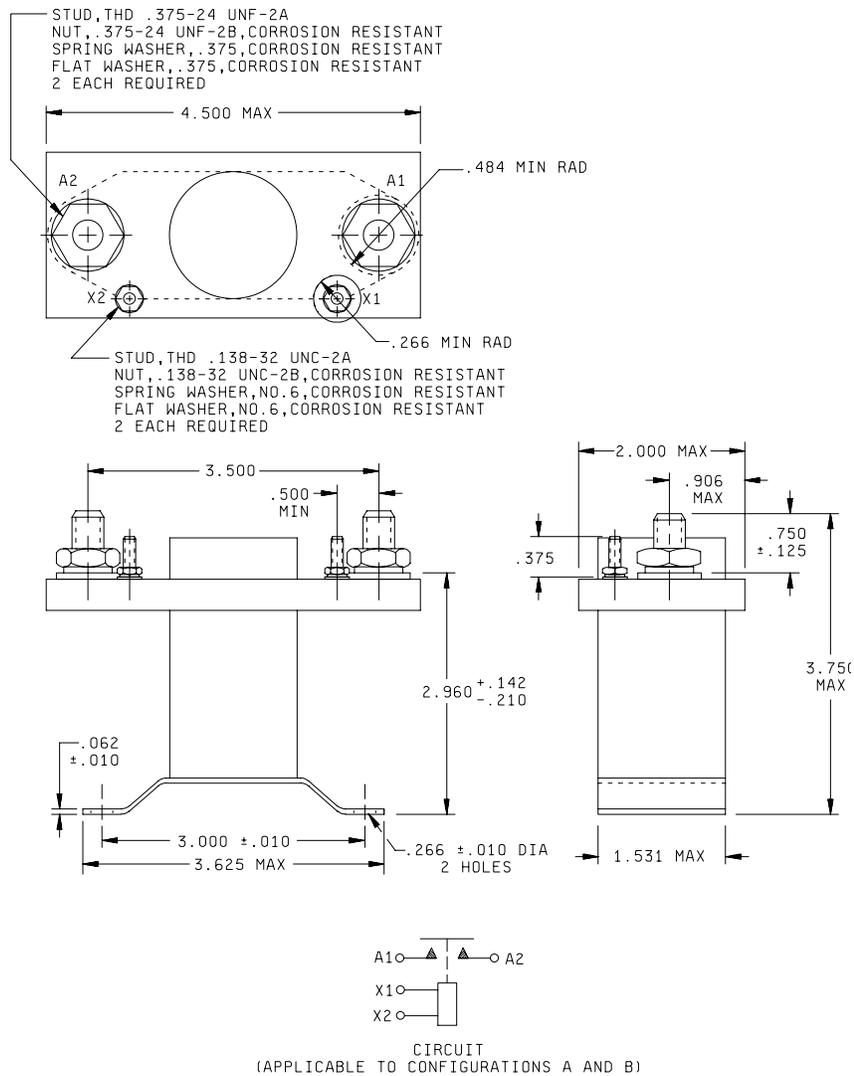


FIGURE I. CONFIGURATION A. Dimensions and configurations (for details see tables I and II).

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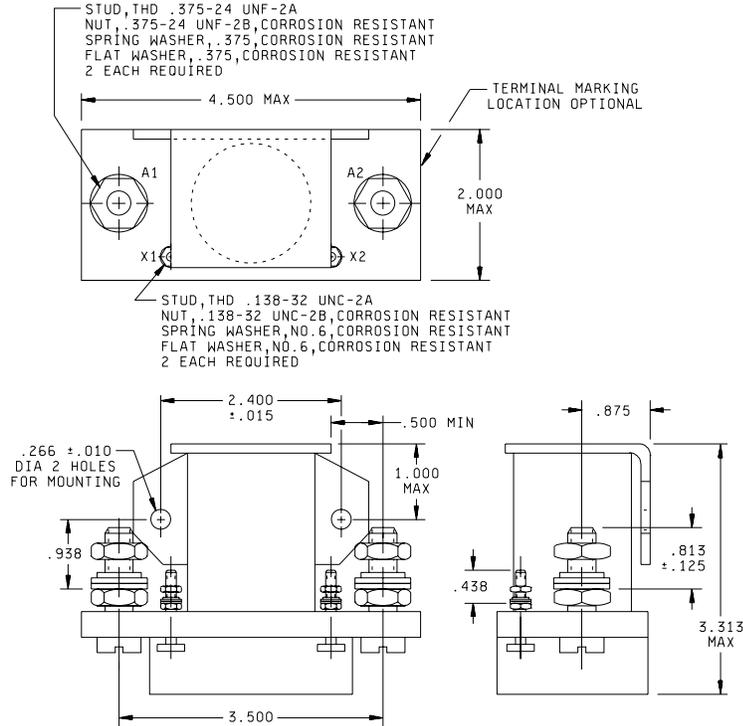


FIGURE 1. CONFIGURATION B. Dimensions and configurations (for details see tables I and II).

Inches	mm	Inches	mm	Inches	mm
.010	0.25	.484	12.30	2.000	50.80
.062	1.57	.500	12.70	2.406	61.11
.125	3.18	.750	19.06	2.960	75.18
.138	3.51	.813	20.66	3.000	76.20
.142	3.61	.875	22.22	3.313	84.15
.210	5.33	.906	23.01	3.500	88.90
.266	6.76	.938	23.83	3.750	95.26
.375	9.52	1.000	25.40	4.500	114.30
.438	11.13	1.531	38.89		

NOTES:

1. Dimensions are in inches.
2. Terminal cover not required.
3. Additional flat washer may be used for terminal seat.
4. Part number MS24171-D1 replaces part no. MS24171-1.
5. This specification sheet takes precedence over documents referenced herein.
6. Referenced Government documents of the issue listed in Assist Online (<http://assist.daps.dla.mil>) or Assist Quick Search (<http://assist.daps.dla.mil/quicksearch>) specified in the solicitation form a part of this specification to the extent specified herein.
7. Metric equivalents are given for general information only.
8. Unless otherwise specified, tolerances are ±.062 (1.57 mm).
9. Terminal temperature rise under continuous current conditions, 95°C. Mixed loads to be conducted at 71°C.
10. Shape of relay optional within envelope dimensions.
11. Cadmium or cadmium compounds are prohibited on external hardware.
12. Spring washer on drawing is a spring lock washer.

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TABLE I. Dash numbers and characteristics.

Dash number MS24171-	Type	Coil	Terminal type	Mounting or mating socket	Max weight in pounds
D1 <u>1/</u>	II	dc	Stud	Bracket - bottom	1.33
D2 <u>2/</u>	II	dc	Stud	Bracket - side	1.33

1/ For Government logistics support MS24171-D1 shall be used in lieu of AN3370-2.

2/ For Government logistics support MS24171-D2 shall be used in lieu of AN3370-1.

TABLE II. Operating characteristics.

PIN MS 24171-	Coil data											Time - (milliseconds maximum)					
	Coil	Nominal			Max		Max pick-up voltage			Hold vol- tage <u>2/</u>	Drop out vol- tage <u>2/</u>	Oper- ate <u>3/</u>	Rel- ease <u>4/</u>	Bounce			
		Volts <u>1/</u>	Freq Hz	$\Omega$ Res minimum 25°C	Volts	Amp	Nor- mal <u>2/</u>	High temp. test	Cont cur- rent test					Main		Aux	
														NO	NC	NO	NC
D1	X1,X2	28	dc	59	29	.60	18	21	22.5	7.0	1.5	25	10	50	---	---	---
D2	X1,X2	28	dc	59	29	.60	18	21	22.5	7.0	1.5	25	10	50	---	---	---

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.

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

Type of load	Life operating cycles x 10 <sup>3</sup>	28 V dc				115 V ac, 1 phase				115/200 V ac, 3 phase <u>1/</u>				See appropriate notes
		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	200												
Inductive	10	100												
Motor	50	200												
Lamp														
Transfer load													/	<u>2/</u>
Mechanical life reduced current	100	50												
Mixed loads	50	20												

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.

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Environmental characteristics:

Temperature range: -55° 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 table IV)

Vibration - random: N/A.

High shock: N/A.

Acceleration: 10 g's.

TABLE IV. Vibration levels.

5-10 Hz	10-55 Hz	55-250 Hz	250-500 Hz	500-1,500 Hz
.08 DA	.06 DA	2 g's	2 g's	

Electrical characteristics:

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 dc	115 V ac
Coil to case	1,250 V rms	N/A	1,000 V rms	N/A
Aux contacts	1,250 V rms	N/A	1,000 V rms	N/A
All other points	1,250 V rms	N/A	1,000 V rms	N/A

Dielectric strength (altitude): 1 minute.

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

Max contact drop initial: .150 volt.

After life test: .175 volt.

Overload current: (NO) 1,600 amperes.

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Rupture current: (NO) 2,000 amperes.  
Duty rating: Continuous.  
RFI specification: MIL-STD-461 (Applicable to coil circuits of ac operated relays).

Qualification by similarity: See MIL-PRF-6106.

Referenced documents. In addition to MIL-PRF-6106, this document references the following:

MIL-STD-461

The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. 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.

Custodian:  
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Preparing Activity  
DLA - CC  
(Project 5945-1278)

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