

MS24171H
27 March 2012
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](#).

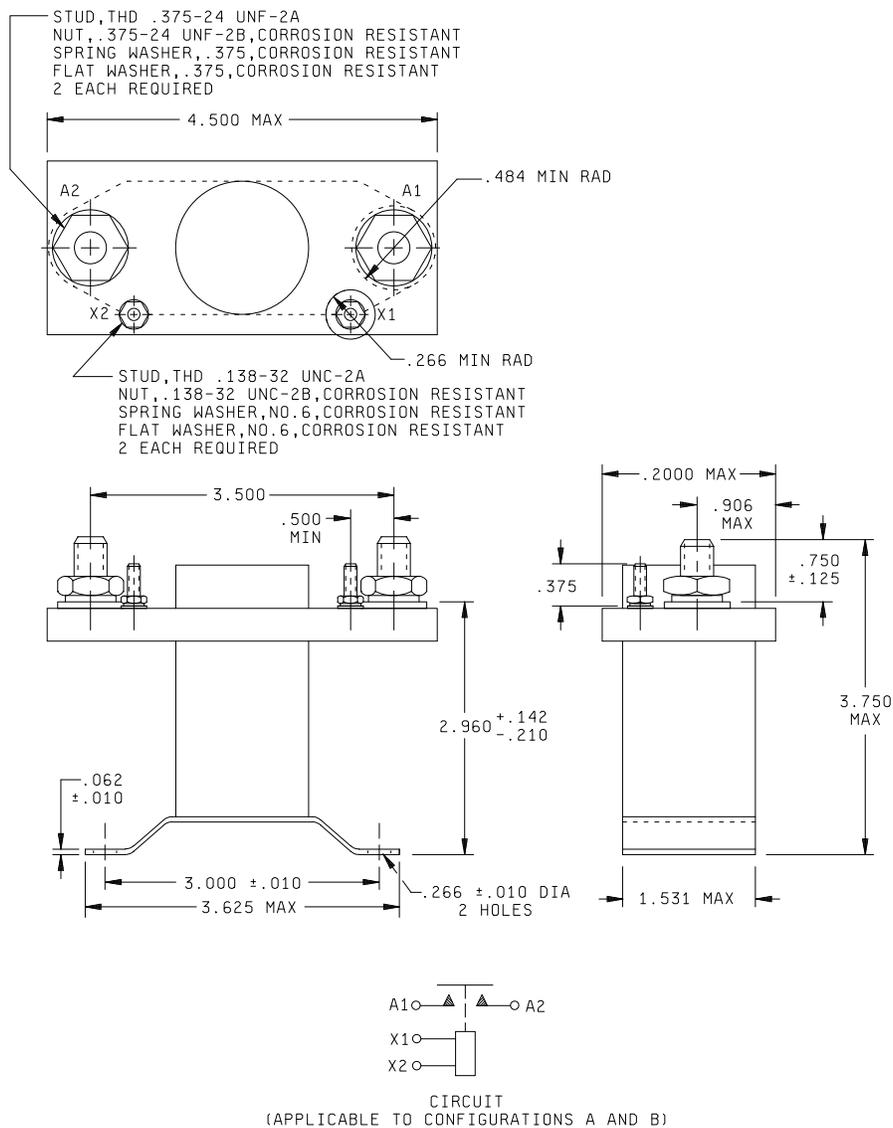


FIGURE 1. CONFIGURATION A. Dimensions and configurations (for details see [tables I and II](#)).

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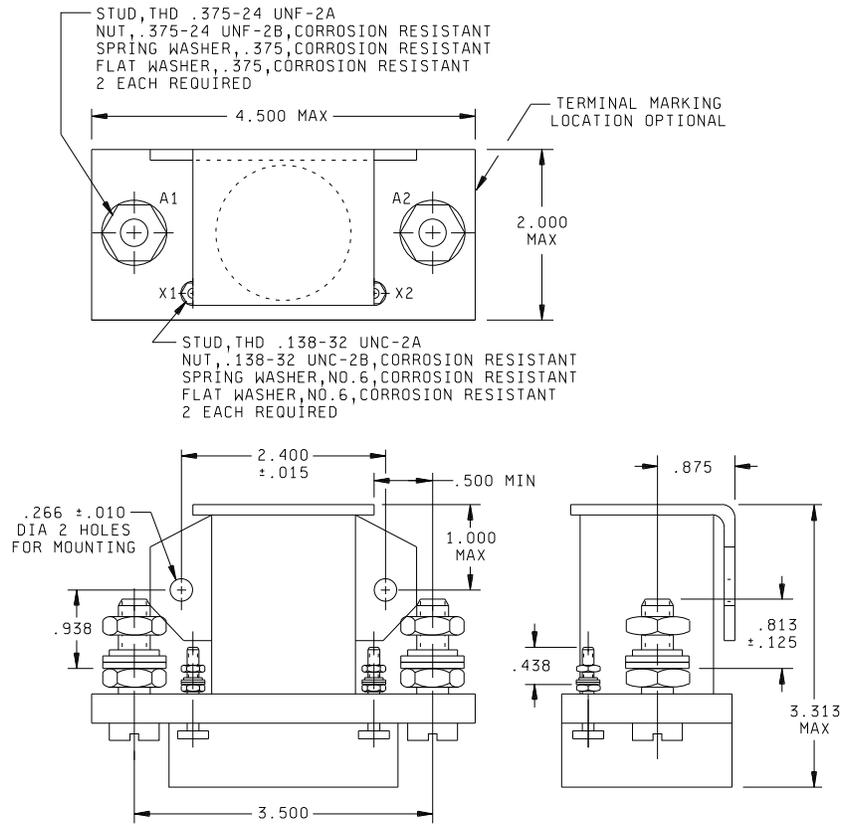


FIGURE 1. CONFIGURATION B. Dimensions and configurations (for details see tables I and II).

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 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 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	Configuration	Max weight in pounds
D1 <u>1/</u>	II	dc	Stud	A	1.33
D2 <u>2/</u>	II	dc	Stud	B	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	Ω Res +15% -10	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	5.0	---	---	---
D2	X1,X2	28	dc	59	29	.60	18	21	22.5	7.0	1.5	25	10	5.0	---	---	---

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 operat- ing cycles $\times 10^3$	28 V dc				115 V ac, 1 phase				115/200 V ac, 3 phase <u>1/</u>			
		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.

The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. 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 and relationship to the last previous issue.

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

[MIL-STD-461](#)

Custodian:
Navy - AS
Air Force - 85
DLA - CC

Preparing Activity
DLA - CC
(Project 5945-2012-017)

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 the ASSIST Online database at <https://assist.daps.da.mil/>.