

INCH-POUND

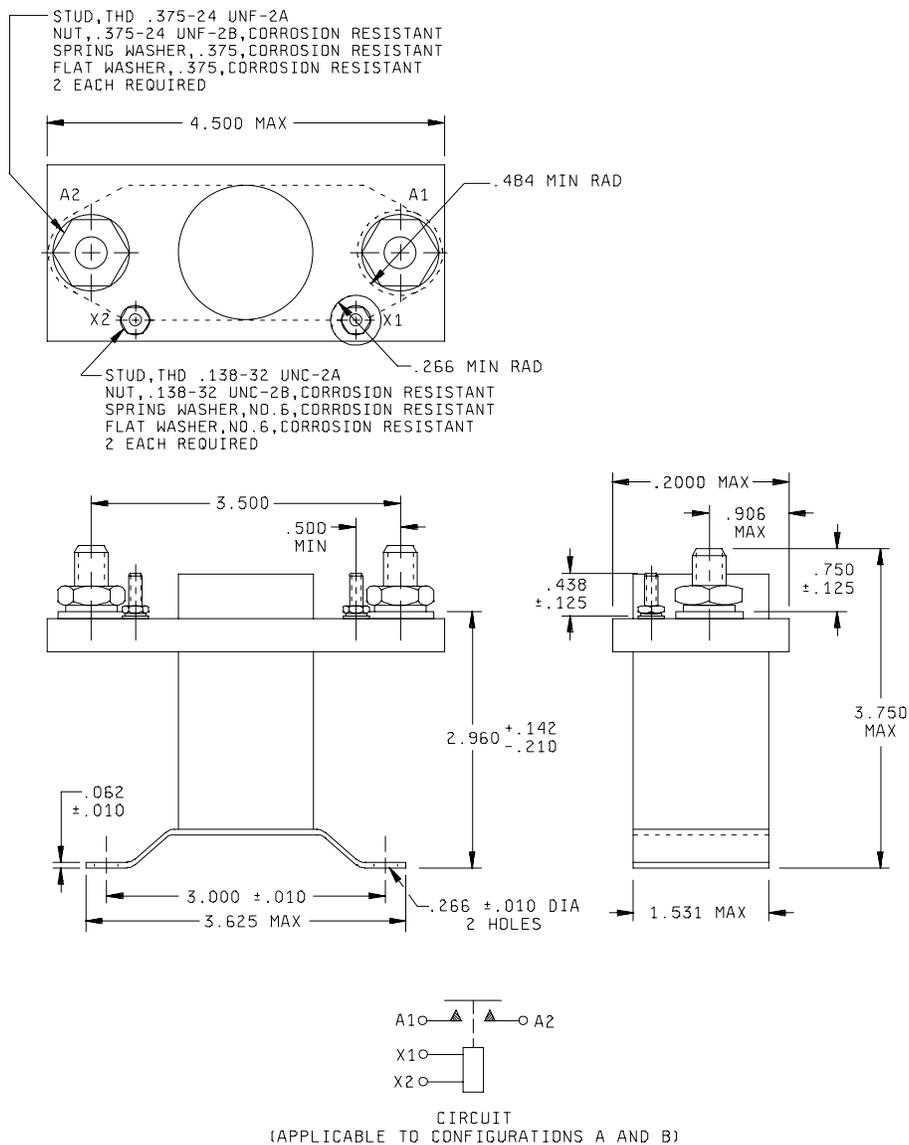
MS24172J  
15 April 2003  
SUPERSEDING  
MS24172H  
25 July 1990

DETAIL SPECIFICATION SHEET

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

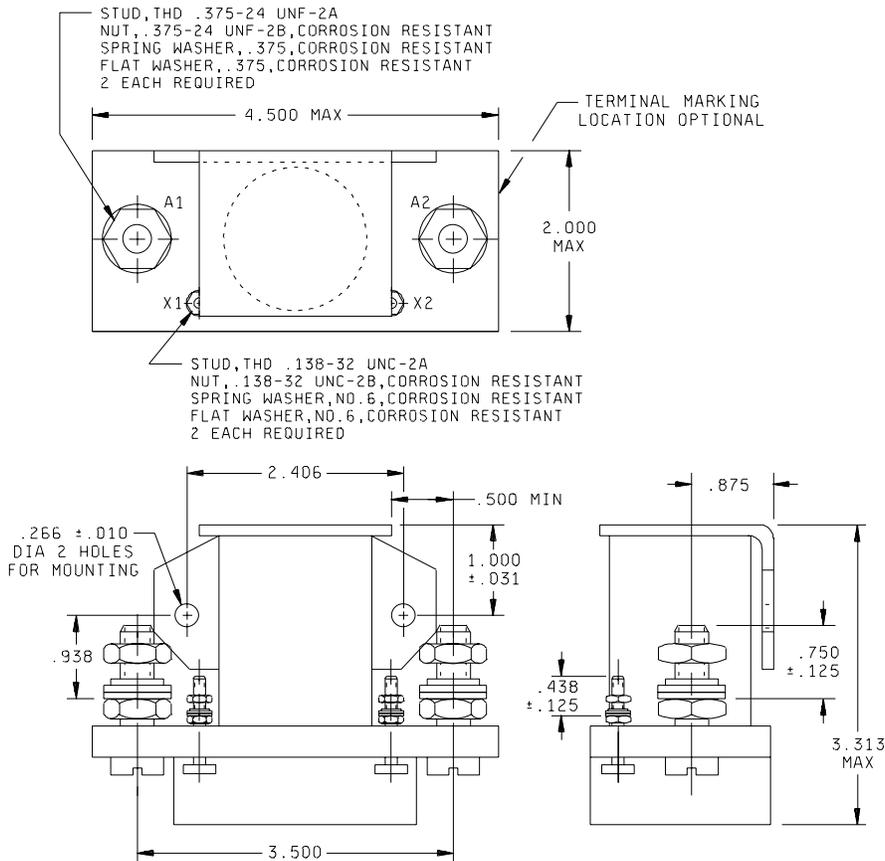
This specification is approved for use by all Departments  
and Agencies of the Department of Defense.

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



CONFIGURATION A. Outline drawing (for details see tables I and II).

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CONFIGURATION B. Outline drawing (for details see tables I and II).

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

NOTES:

1. Dimensions are in inches.
2. Terminal cover not required.
3. Additional flat washer may be used for terminal seat.
4. Part number MS24172-D1 replaces part no. MS24172-1.
5. This specification sheet takes precedence over documents referenced herein.
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 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. Intermediate current to be conducted at 71°C.
10. Shape of relay optional within envelope dimensions.
11. Cadmium or cadmium compounds are prohibited on external hardware. A transition period to non-cadmium hardware is authorized for up to 1 year from the date of this revision.
12. Spring washer on drawing is a spring lock washer.

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TABLE I. Dash numbers and characteristics.

Dash number MS24172-	Type	Coil	Terminal type	Mounting or mating socket	Max weight in pounds
D1 <u>1/</u>	III	dc	Stud	Bracket - bottom	1.33
D2 <u>2/</u>	III	dc	Stud	Bracket - side	1.33

1/ For Government logistics support MS24172-D1 shall be used in lieu of AN3371-2.

2/ For Government logistics support MS24172-D2 shall be used in lieu of AN3371-1.

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 +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	10	29	4.5	7.5	11.5	---	3.0	.5	25	18	5.0	---	---	---
D2	X1,X2	28	dc	10	29	4.5	7.5	11.5	---	3.0	.5	25	18	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													

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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Electrical 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 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

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Max contact drop initial:	0.150 volt.
After life test:	0.175 volt.
Overload current	(NO) 1,600 amperes.
Rupture current	(NO) 2,000 amperes.
Duty rating	Intermittent
RFI spec	MIL-STD-461

(Applicable to coil circuits of ac operated relays)

Qualification by similarity: See MIL-PRF-6106.

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

Preparing Activity  
DLA - CC  
  
(Project 5945-1206-08)

Review activity:  
Navy - EC