

INCH-POUND

MS24179M

13 October 1994

SUPERSEDING

MS24179L

10 January 1994

AN3381, Revision 9

25 July 1976

MILITARY SPECIFICATION SHEET

RELAYS, ELECTROMAGNETIC, 400 AMPERES,
1 PST (N. O.), TYPE III, NON-HERMETICALLY SEALED

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

The requirements for acquiring the product described herein shall consist of
this specification sheet and the issue of the following specification listed
in that issue of the Department of Defense Index of Specifications and
Standards (DODISS) specified in the solicitation: MIL-R-6106.

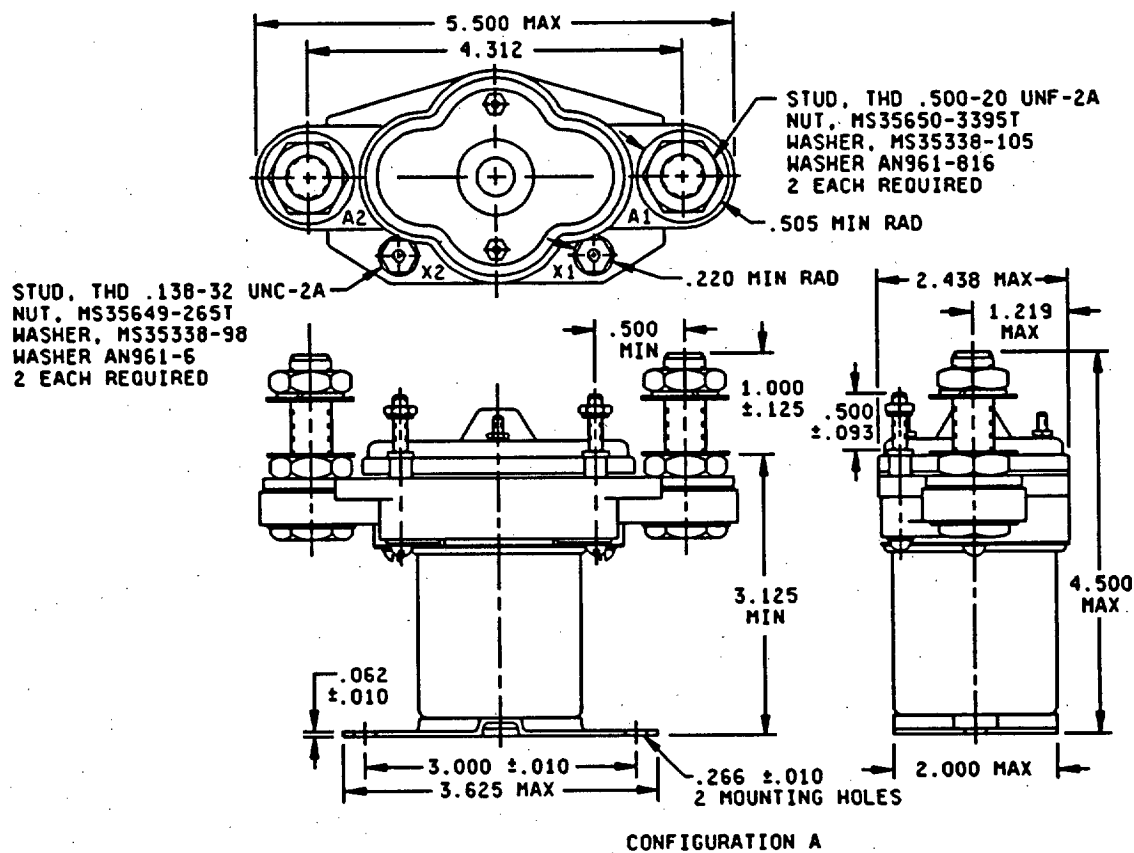


FIGURE 1. Dimensions and configurations.

(M) denotes changes

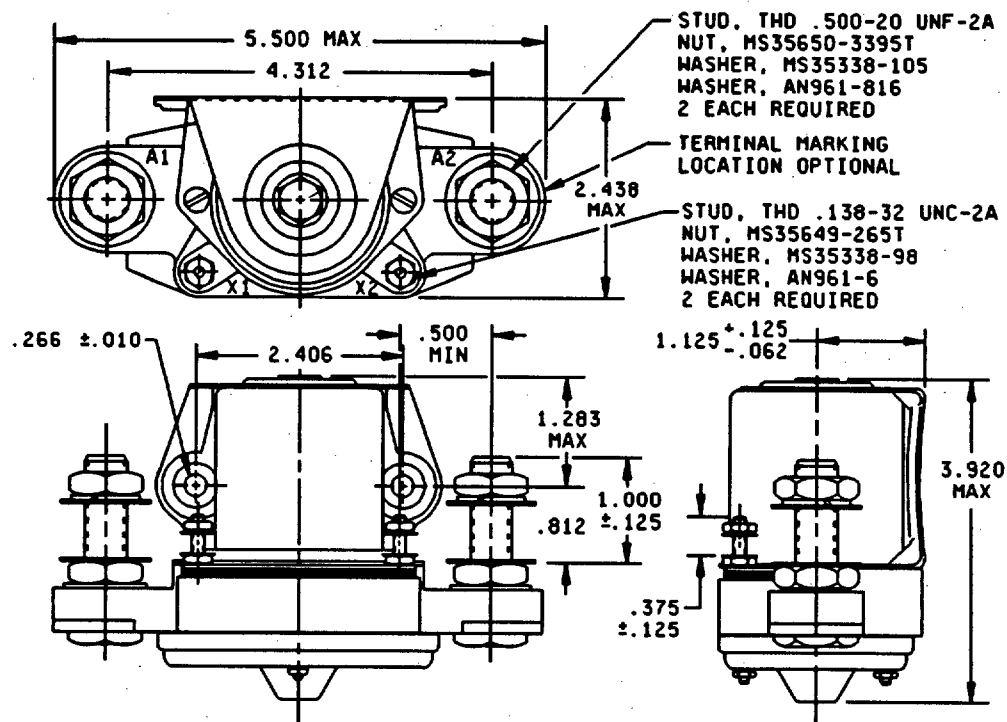
AMSC N/A

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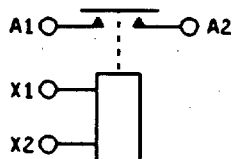
FSC 5945

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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CONFIGURATION B



CIRCUIT DIAGRAM
APPLICABLE TO
CONFIGURATIONS A AND B

FIGURE 1. Dimensions and configurations - Continued.

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Inches	mm	Inches	mm
.010	0.25	1.125	28.58
.062	1.57	1.219	30.96
.125	2.36	1.273	32.33
.146	3.71	2.000	50.80
.157	3.99	2.406	61.11
.220	5.59	2.438	61.92
.266	6.76	3.000	76.20
.375	9.53	3.356	85.24
.500	12.70	3.635	92.33
.505	12.83	3.920	99.57
.812	20.62	4.312	109.52
.936	23.77	4.500	114.30
1.000	25.40	5.500	139.70

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± 0.062 (1.57 mm).
4. Additional flat washer may be used for terminal seat.
5. Terminal temperature rise under continuous current conditions shall be 95°C. Intermediate current shall be conducted at 71°C.
6. In the event of a conflict between the text of this document and the references cited herein, the text of this document shall take precedence.
7. 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 document to the extent specified herein.
8. Shape of relay is optional within the envelope dimensions shown.

FIGURE 1. Dimensions and configurations - Continued.

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REQUIREMENTS:

Dimensions and configurations: See figure 1.

Dash number and general characteristics: See table I.

Contact data:

Load ratings: See table II.

Maximum contact drop, initial: 0.175 V.

After life test: 0.200 V.

Overload current (N.O.): 3,200 amperes.

Rupture current (N.O.): 4,000 amperes.

Coil data: See table III.

Duty rating: Intermittent.

Electrical data:

Minimum insulation resistance:

Initial: 100 megohms.

After life or environmental test: 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
Auxiliary 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

Altitude, 1 minute:

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

Environmental characteristics:

Temperature range: -55°C to +71°C.

Maximum altitude rating: 50,000 feet.

Shock, g-level: 25 g's.

Duration: 6-9 ms.

Maximum duration contact opening: 2 ms.

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Vibration, sinusoidal: See table IV.

Vibration, random: N/A.

Acceleration: 10 g's.

Qualification by similarity: See table V.

(M) Supersession data: See table VI.

Part or Identifying Number (PIN): MS24179- (plus applicable dash number from table I).

(M) TABLE I. Dash numbers and general characteristics.

Dash number MS24179-	Type	Coil	Terminal type	Mounting or mating socket	Max weight (pounds)
D1	III	dc	Stud	Bracket - bottom	2.6
D2	III	dc	Stud	Bracket - side	2.6

TABLE II. Rated contact load (amperes per pole) case grounded. 1/

Type of load	Life operating cycles x 10 ³	28 V dc				115 V ac, 1 phase				115/200 V ac, 3 phase				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	400												
Inductive	10	100												
Motor	50	400												
Lamp														
Transfer load														2/
Mechanical life reduced current	100	100												
Intermediate minimum current														

1/ Absence of value indicates parameter is not applicable to this specification.

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

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TABLE III. Operating characteristics.

PIN	Coil data											Time (milliseconds - maximum)							
	Coil	Rated			Max		Max pick-up voltage			Hold voltage 2/	Drop out voltage 2/	Operate 3/	Release 4/	Bounce					
		Volts 1/	Freq Hz	Res Ω +15% -10%	Volts	Amperes	Normal 2/	High temp test	Cont current test					Main		Aux			
														NO	NC	NO	NC		
MS24179-	D1 D2	X1,X2 X1,X2	28 28	dc dc	9.6 9.6	29 29	3.4 3.4	7.5 7.5	8.75 8.75	9.4 9.4	3.0 3.0	0.5 0.5	20 20	15 15	5 5				

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 rated coil voltage.

4/ From rated coil voltage.

TABLE IV. Vibration levels (sinusoidal).

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

TABLE V. Qualification by similarity.

PIN MS24179-	Loads						Dynamics <u>1</u> /			Environmental			
	Type 1			Type 1 ER									
	A	B	C	D	E	F							
D1	4						2				4		
D2	4						2				4		

1/ For Group C testing, each dash number shall be tested to meet vibration requirements.

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(M) TABLE VI. Supersession data.

Canceled PIN	Superseding PIN
AN3381-1 AN3381-2	MS24179-D2 MS24179-D1

CONCLUDING MATERIAL

Custodians:

Navy - AS
Air Force - 85

Review activities:

Navy - EC
Air Force - 99
DLA - ES

Preparing activity:

Air Force - 85

Agent:

DLA - ES

(Project 5945-F770)