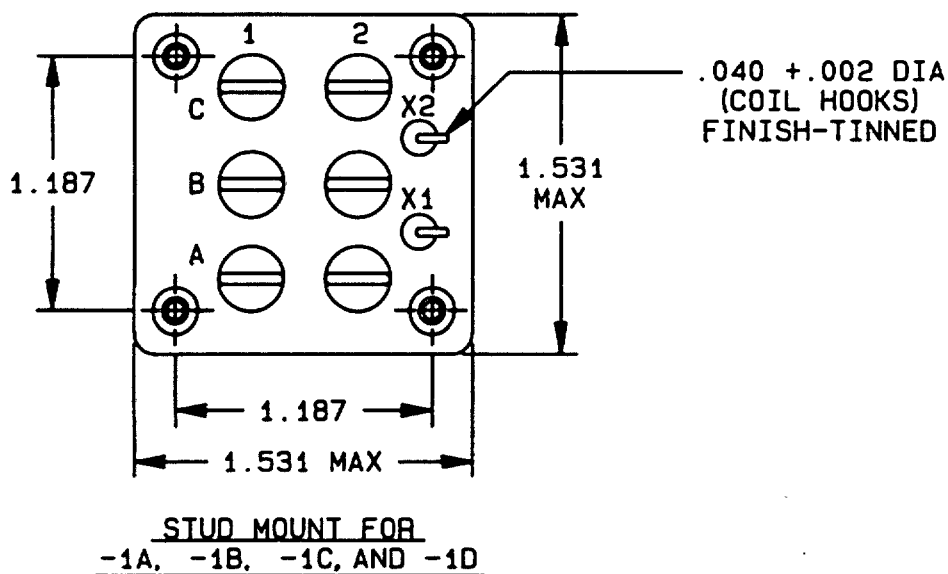
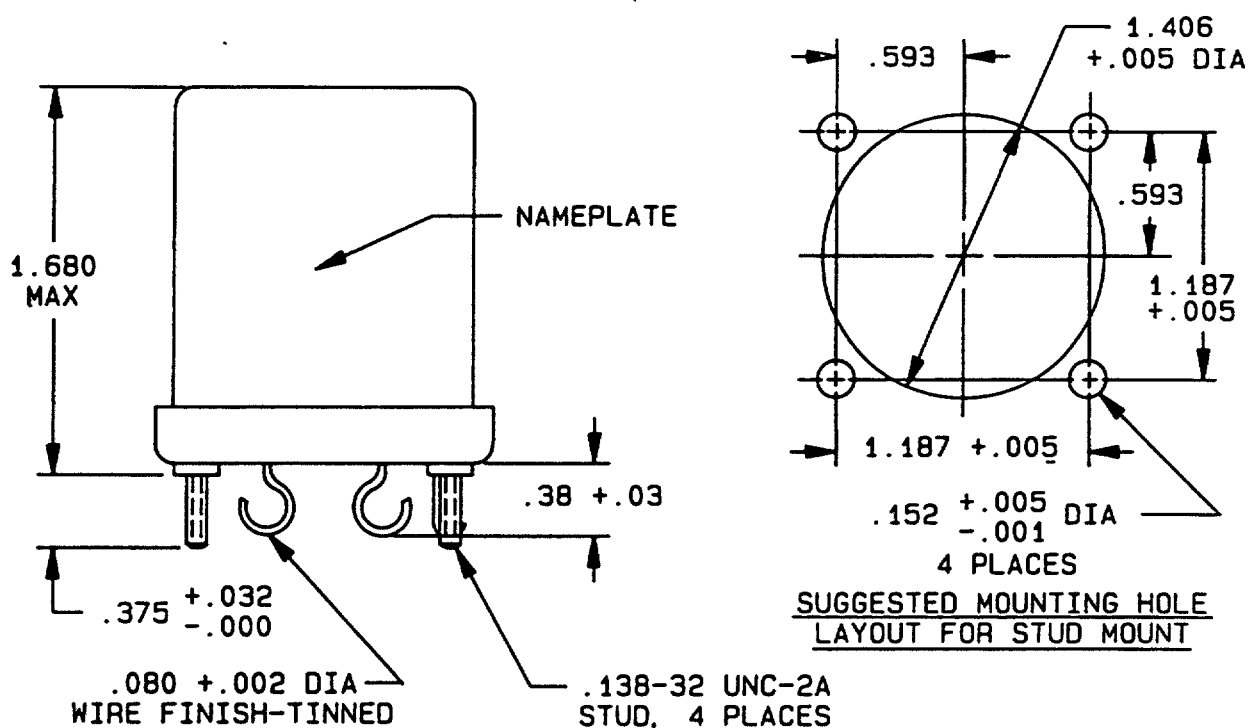


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CUSTODIANS: ARMY - NAVY - AS  
AIR FORCE - 85 OLA - ES

REVIEW: Air Force- 11, 99

USER:

PROJECT NUMBER: 5945-0836

**MILITARY SPECIFICATION SHEET**  
TITLE RELAYS, ELECTROMAGNETIC,  
25 AMPERES, 3PST-NO, TYPE I,  
HERMETICALLY SEALED, HOOK AND  
SCREW TERMINALS, STUD AND BRACKET  
MOUNTED

SPECIFICATION SHEET NUMBER

**MS27418J** 16 March 90

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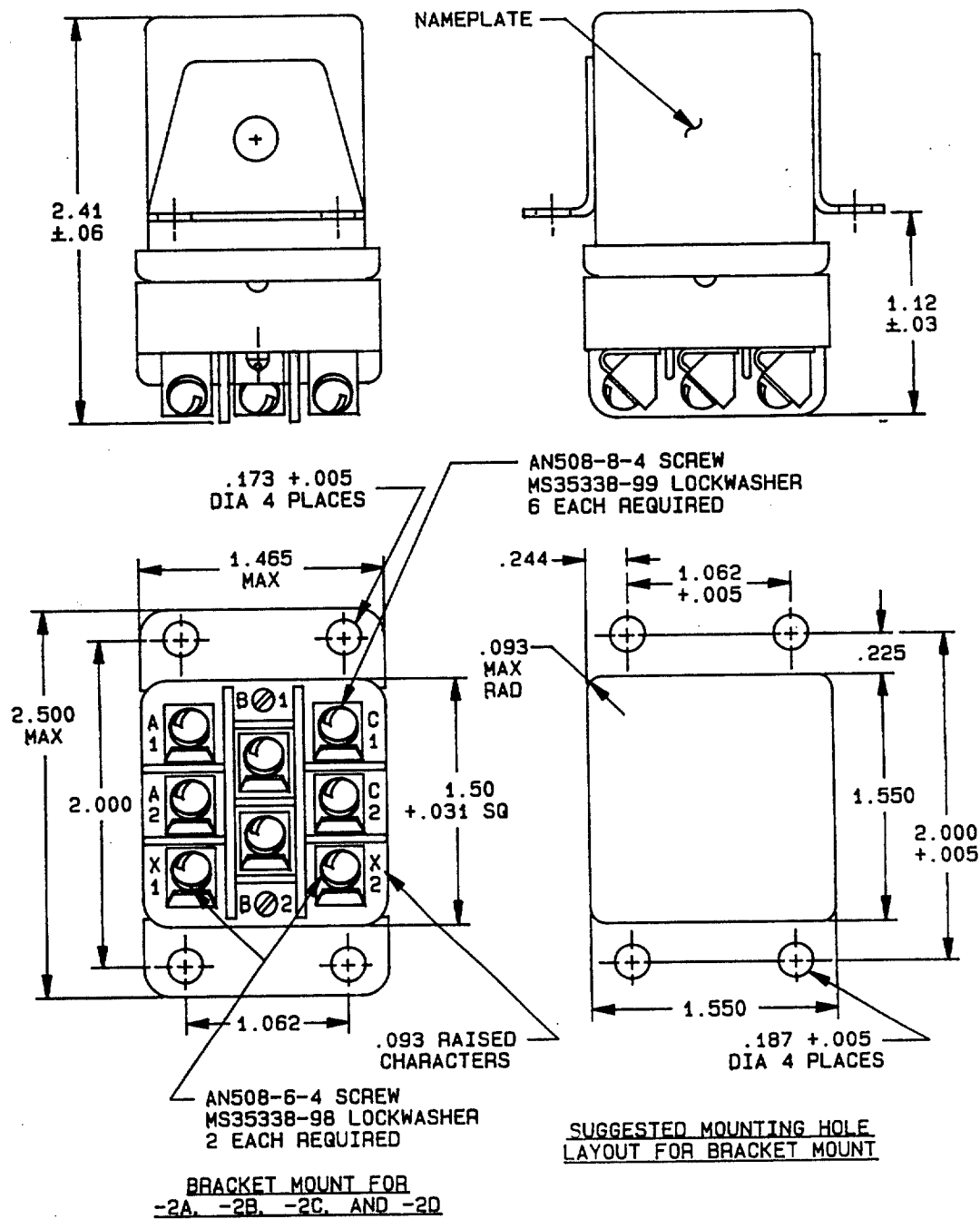
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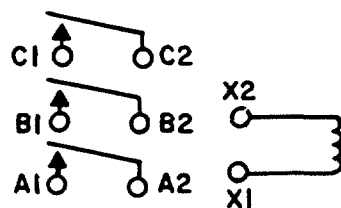
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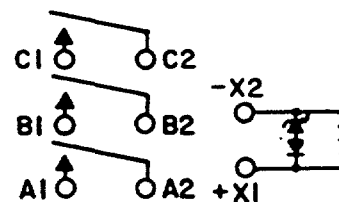
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**CIRCUIT DIAGRAM A**

(DC UNSUPPRESSED AND AC COILS)



**CIRCUIT DIAGRAM B**

(DC SUPPRESSED COILS)

Inches	mm	Inches	mm
.001	0.03	.244	6.20
.002	0.05	.375	9.52
.005	0.13	.38	9.7
.03	0.8	.593	15.06
.031	0.79	1.062	26.97
.032	0.81	1.12	28.5
.040	1.02	1.187	30.15
.06	1.5	1.406	35.71
.080	2.03	1.465	37.21
.093	2.36	1.50	38.1
.138	3.51	1.531	38.89
.152	3.86	1.550	39.37
.173	4.39	1.680	42.67
.187	4.75	2.000	50.80
.225	5.72	2.41	61.2
		2.500	63.50

**NOTES:**

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are  $\pm .010$  (0.25 mm).
4. A, B, and C contacts capable of accepting MS25036-53 lugs, X1 and X2 contacts capable of accepting MS25036-7 or -2 lugs.
5. Terminal numbers need not appear on relay header provided there is affixed to the relay a suitable legible circuit diagram that identifies each terminal location specified.
6. In the event of a conflict between the text of this specification sheet and the references cited herein, the text of this specification sheet 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 specification sheet to the extent specified herein.

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**MILITARY SPECIFICATION SHEET**  
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25 AMPERES, 3PST-NO, TYPE I,  
HERMETICALLY SEALED, HOOK AND  
SCREW TERMINALS, STUD AND BRACKET  
MOUNTED

SPECIFICATION SHEET NUMBER

**MS27418 J**

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TABLE I. Dash numbers and characteristics.

MS part number	Type	Coil	Circuit	Terminal type	Mounting or Mating socket	Max weight in pounds
MS27418-1A	I	ac	A	Solder hook	Stud	.50
MS27418-1B	I	dc	A	Solder hook	Stud	.50
MS27418-1C	I	ac	A	Solder hook	Stud	.50
MS27418-2A	I	ac	A	Screw	Bracket	.60
MS27418-2B	I	dc	A	Screw	Bracket	.60
MS27418-2C	I	ac	A	Screw	Bracket	.60
MS27418-1D	I	dc	B 1/ 2/	Solder hook	Stud	.51
MS27418-2D	I	dc	B <u>1</u> / <u>2</u> /	Screw	Bracket	.61

1/ Transient voltage (back emf) 42 V dc maximum.

2/ Diodes shall have a peak inverse voltage of 600 V dc minimum.

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TABLE II. Operating characteristics.

MS part no. MS27418-	Coil data										Time (milliseconds maximum)								
	Coil	Nominal		Max		Max pick-up voltage				Hold voltage 3/ _	Drop out voltage 3/ _	Operate 4/ _	Release 5/ _	Contact bounce					
		Volts 1/ _	Freq. Hz	Res Ω ±10%	Volts	Amperes	Normal 3/ _	High temp test	Cont current test					Main	Aux	NO	NC	NO	NC
1A	X1, X2	115	400	N/A	122	.055	95	100	108	40	5.0	25	50	2					
2A	X1, X2	115	400	N/A	122	.055	95	100	108	40	5.0	25	50	2					
1B	X1, X2	28	dc	160	29 2/	.25	18	19.5	22.5	7.0	1.5	20	10	2					
2B	X1, X2	28	dc	160	29 2/	.25	18	19.5	22.5	7.0	1.5	20	10	2					
1C	X1, X2	115	50/60	N/A	122	.06	95	100	108	40	5.0	25	50	2					
2C	X1, X2	115	50/60	N/A	122	.06	95	100	108	40	5.0	25	50	2					
1D	X1, X2	28	dc	160	29 2/	.25	18	19.5	22.5	7.0	1.5	20	10	2					
2D	X1, X2	28	dc	160	29 2/	.25	18	19.5	22.5	7.0	1.5	20	10	2					

1/ CAUTION: Use of any coil voltage less than nominal coil voltage will compromise the operation of the relay.  
 2/ Maximum coil voltage shall be +32 V dc when maximum ambient temperature does not exceed 85°C.  
 3/ Over the temperature range.  
 4/ With nominal coil voltage.  
 5/ From nominal coil voltage.

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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 1/			See appropriate notes
		Main		Main		Aux	Main		Aux	
		NO	NC	NO	NC	400 Hz	50/60 Hz	400 Hz	50/60 Hz	
Resistive	50	25		25		25	25	25	25	
Inductive	10			25		25	25	25	25	2/
Inductive	10	15								
Motor	50	20		20		12		12		
Lamp	50	10		10		10		10		
Transfer load										3/
Mechanical life reduced current	200	6.3		6.3		6.3	6.3	6.3	6.3	
Intermediate current	Applicable in accordance with specification									

- 1/ Absence of value indicates relay is not rated for 3 phase applications.  
 2/ 0.7 pF, inductive.  
 3/ Transfer load indicates relay suitable for transfer between unsynchronized ac power supplies at rating indicated.

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Environmental characteristics		Electrical characteristics	
Temperature range	-70°C to +125°C	Insulation resistance, initial	100 megohms
Max altitude rating	80,000 ft	After life or environmental test	50 megohms
Shock G-level	50 g's	Dielectric strength (sea level)	
Duration	11 ms		
Max duration contact opening	2 ms		
Vibration - sinusoidal			
Operating		Coil to case	Initial 1,250 V rms After life tests 1,000 V rms
G-rating	10 g's	Aux contacts	
Frequency range	5 to 1,000 Hz	All other points	1,500 V rms 1,125 V rms
Nonoperation		Dielectric strength (altitude)	80,000 ft
G-level	15 g's	Coil to case	500 V rms
Frequency range	20 to 2,000 Hz	Aux contacts	
Acceleration	10 g's	All other points	500 V rms
		Max contact drop initial	0.150 volt
		After life test	0.175 volt
		Overload current	80 amperes dc
		Rupture current	120 amperes ac
			100 amperes dc
			150 amperes ac
		Duty rating	Continuous
		RFI specification	MIL-STD-461
		(Applicable to coil circuits of ac operated relays)	

PREPARING ACTIVITY: Air Force-85 CUSTODIANS: ARMY - NAVY - AS AIR FORCE -85 DLA - ES	<b>MILITARY SPECIFICATION SHEET</b> TITLE RELAYS, ELECTROMAGNETIC, 25 AMPERES, 3PST-NO, TYPE I, HERMETICALLY SEALED, HOOK AND SCREW TERMINALS, STUD AND BRACKET MOUNTED	SPECIFICATION SHEET NUMBER <b>MS27418J</b> SUPERSEDING MS27418H 28 April 1989 AMSC N/A FSC 5945
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