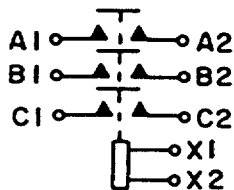
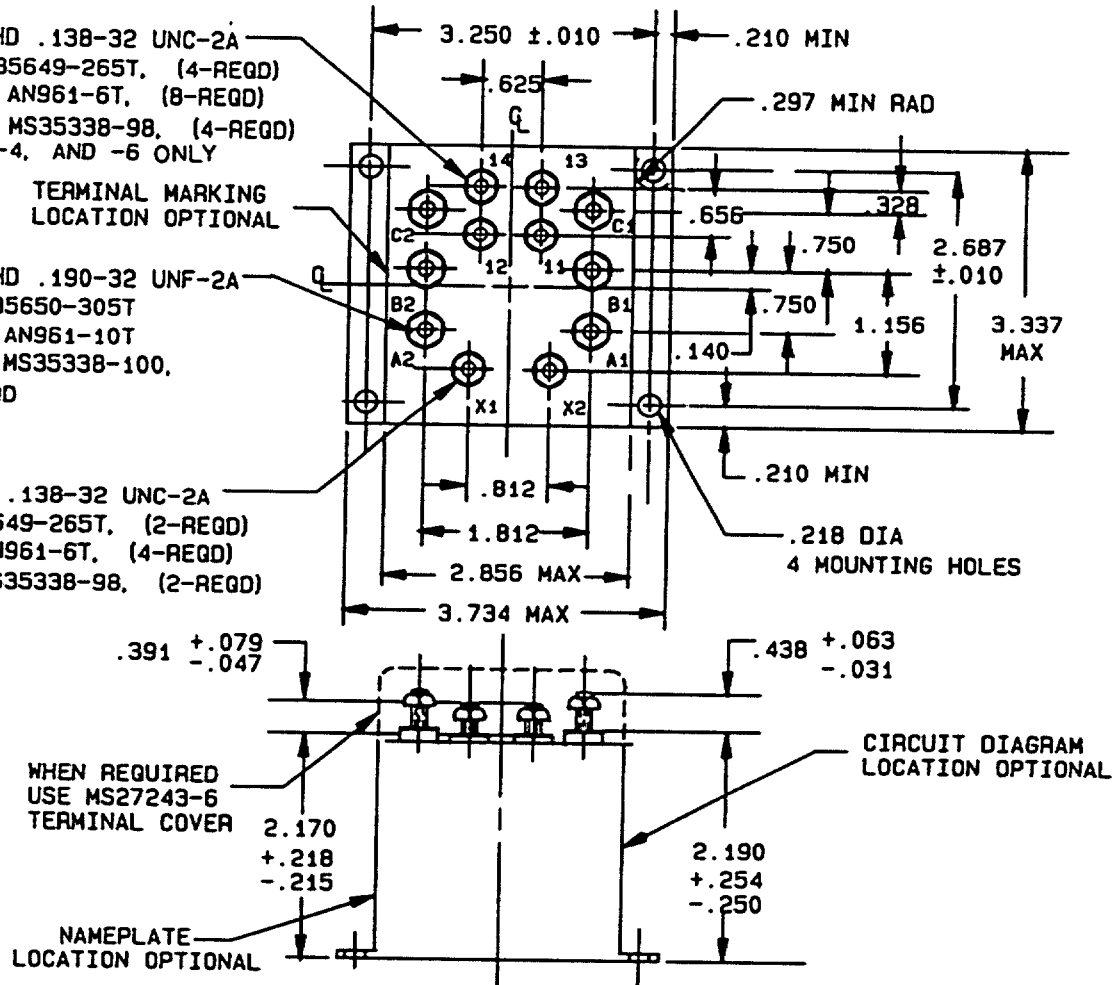


STUD, THD .138-32 UNC-2A
NUT, MS35649-265T, (4-REQD)
WASHER, AN961-6T, (8-REQD)
WASHER, MS35338-98, (4-REQD)
ON -2, -4, AND -6 ONLY

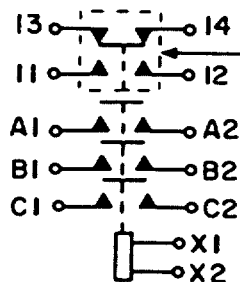
TERMINAL MARKING
LOCATION OPTIONAL

STUD, THD .190-32 UNF-2A
NUT, MS35650-305T
WASHER, AN961-10T
WASHER, MS35338-100,
6 EA REQD

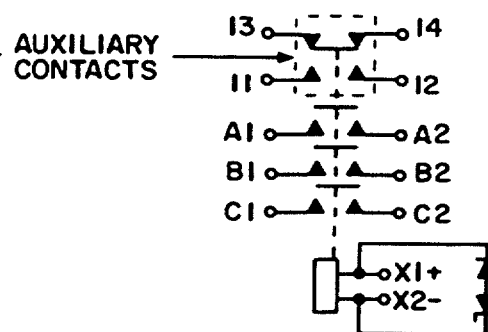
STUD, THD .138-32 UNC-2A
NUT, MS35649-265T, (2-REQD)
WASHER, AN961-6T, (4-REQD)
WASHER, MS35338-98, (2-REQD)



CIRCUIT
-1 -3 AND -5



CIRCUIT
-2 -4 AND -6



CIRCUIT -7
(SEE NOTE 8)

(K) ENTIRE STANDARD REVISED

PREPARING ACTIVITY: Air Force-85
CUSTODIANS: ARMY - NAVY - AS
AIR FORCE - 85 DLA -
Agent: DLA-ES
REVIEW:
USER:
PROJECT NUMBER 5945-0852-01
DISTRIBUTION STATEMENT

MILITARY SPECIFICATION SHEET
TITLE
RELAYS, ELECTROMAGNETIC,
50 AMPERES, 3PST, N.O.
TYPE 1, HERMETICALLY SEALED

SPECIFICATION SHEET NUMBER
MS27222K 18 April 1991
SUPERSEDING
MS27222J 9 OCT 1990
AMSC N/A FSC 5945

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Inches	mm	Inches	mm	Inches	mm
.010	0.25	.218	5.54	.812	20.62
.031	0.79	.250	6.35	1.156	29.36
.047	1.19	.254	6.45	1.812	46.02
.063	1.60	.297	7.54	2.170	55.12
.079	2.01	.328	8.33	2.190	55.63
.138	3.51	.391	9.93	2.687	68.25
.140	3.56	.438	11.13	3.250	82.55
.190	4.83	.625	15.88	3.337	84.76
.210	5.33	.656	16.66	3.734	94.84
.215	5.46	.750	19.05		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ± 0.031 inch (0.79 mm).
4. Coil and auxiliary terminals may use additional washer for terminal seat.
5. 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.
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 sheet to the extent specified herein.
7. Terminal strength: High temperature pull and torque test not applicable.
8. When semiconductors are required, JANTX or equivalent screened semiconductors shall be used. Relays using suppression devices shall continue to operate should the suppression circuit be in a failure mode. Diodes shall have a peak inverse voltage of 600 V dc minimum.
9. For detail information, see tables I through V.

TABLE I. Relay characteristics.

MS Part or Identifying Number MS27222-	Type	Coil type	Terminal type	Mounting or mating socket	Auxiliary terminals	Maximum wt lbs ^{1/}
1	I	dc	Lug	N/A	NONE	1.25
2	I	dc	Lug	N/A	WITH	1.30
3	I	ac	Lug	N/A	NONE	1.30
4	I	ac	Lug	N/A	WITH	1.35
5	I	ac	Lug	N/A	NONE	1.30
6	I	ac	Lug	N/A	WITH	1.35
7	I	dc	Lug	N/A	WITH	1.30

^{1/} Weights include terminal barriers and covers.

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TITLE
MILITARY SPECIFICATION SHEET
RELAYS, ELECTROMAGNETIC,
50 AMPERES, 3PST, N.O.
TYPE I, HERMETICALLY SEALED

SPECIFICATION SHEET NUMBER

MS27222K

SUPERSEDING
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TABLE II. Operating characteristics.

Coil data																Time - (milliseconds - maximum)			
MS PIN	Coil	Nominal		Maximum		Max pick-up voltage			Hold volt- age 3/ 3/	Drop- out voltage 3/ 3/	Operate 1/ 4/	Bounce 1/							
		Volts 2/ Hz	Freq. Hz	Res Ω ±10%	Volts Amperes	Normal 3/ test	High Cont temp current test	Main				Aux							
													NO	NC	NO	NC			
MS27222-	1	X1,X2	28	dc	51	29	.6	18	21	22.5	7.0	1.5	25	10	2	---	---		
	2	X1,X2	28	dc	51	29	.6	18	21	22.5	7.0	1.5	25	10	2	---	4 4		
	3	X1,X2	115	60/400	N/A	124	.2	90	100	104	40	10	25	50	2	---	---		
	4	X1,X2	115	60/400	N/A	124	.2	90	100	104	40	10	25	50	2	---	4 4		
	5	X1,X2	115	400	N/A	124	.2	90	100	104	40	10	25	50	2	---			
	6	X1,X2	115	400	N/A	124	.2	90	100	104	40	10	25	50	2	---	4 4		
	7	5/X1,X2	28	dc	51	29	.6	18	21	22.5	7.0	1.5	25	10	2	---	4 4		

1/ With nominal coil voltage.

2/ Caution. Use of any coil voltage less than nominal coil voltage will compromise the operation of the relay.

3/ Over the temperature range.

4/ From nominal coil voltage.

5/ Coil suppression (transient voltage back EMF) 42 V dc maximum.

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 AIR FORCE - 85 DLA -
 Agent: DLA-ES
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 PROJECT NUMBER: 5945-0852-01

TITLE
 MILITARY SPECIFICATION SHEET
 RELAYS, ELECTROMAGNETIC,
 50 AMPERES, 3PST, N.O.
 TYPE I, HERMETICALLY SEALED

SPECIFICATION SHEET NUMBER

MS27222K

SUPERSEDING:

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THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODISS SPECIFIED IN THE SOLICITATION: MIL-R-6106.

THIS SPECIFICATION IS APPROVED FOR USE BY all Departments and Agencies of the Department of Defense.

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

Type of load	Life operating cycles x 10 ³	28 V dc						115 V ac, 1 phase						115/200 V ac 3 phase 1/						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	50	---	5	5		50	---		5	5		50	---		---	---			
Inductive	10	50	---	5	5		50	---		5	5		50	---		---	---			
Inductive																				
Motor	50	50	---	---	---		50	---		---	---		50	---		---	---			
Lamp	---	---	---	1	1		---	---		1	1		---	---		---	---			
Transfer load																		2/		
Mechanical life reduced current	100	12.5	---	1.25	1.25		12.5	---		1.25	1.25		12.5	---		---	---			
Intermediate current	50																			
Applicable in accordance with MIL-R-6106																				

Applicable in accordance with MIL-R-6106

1/ Absence of value indicates relay is not rated for 3 phase application.

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

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AIR FORCE - 85 DLA -
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MILITARY SPECIFICATION SHEET
TITLE
RELAYS, ELECTROMAGNETIC,
50 AMPERES, 3PST, N.O.
TYPE 1, HERMETICALLY SEALED

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TABLE IV. Vibration level.

MS PIN MS27222-	5-10 Hz	10-55 Hz	55-750 Hz	750-1500 Hz
1, 3, and 5	.06 DA	.06 DA	15 g	12 g
2, 4, and 6	.06 DA	.06 DA	10 g	10 g

TABLE V. Qualification by similarity.

MS PIN PIN MS27222-	Loads						Dynamics <u>1/</u>				Environmental <u>2/</u>		
	Type 1			Type 1 ER			A	B	C	D	A	B	C
	A	B	C	D	E	F							
1	4						2				4		
2	4 <u>2/</u>						2				4		
3			2,3							1			2,3
4			2,3 <u>2/</u>							1			2,3
5		2,3							1			2,3	
6		2,3 <u>2/</u>							1			2,3	
7	2,3 <u>2/</u>						1				2,3		

1/ All units must be tested, reference the appendix of MIL-R-6106 construction, internal.

2/ Test unit with auxiliaries, reference appendix of MIL-R-6106 construction, internal.

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MILITARY SPECIFICATION SHEET
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50 AMPERES, 3PST, N.O.
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Environmental characteristics

Temperature range -70°C to +125°C
 Maximum altitude rating 80,000 ft
 Shock G-level 59 g's
 Duration 6-9 ms
 Maximum duration contact opening 2 ms
 Vibration:
 Sinusoidal (see table IV)
 G-level
 Frequency range
 Nonoperate:
 G-level 15 g's
 Frequency range curve 20 to 2,000 Hz
 Acceleration 15 g's

Electrical characteristics

Insulation resistance, initial 100 megohms
 After life or environmental tests 50 megohms
 Dielectric strength (sea level) (see table VI) 2-5 seconds

TABLE VI. Dielectric strength (sea level).

Dielectric strength	Initial		After life tests	
	28 V dc	115 V ac	28 V dc	115 V ac
Coil to case	1,250	1,500	1,000	1,125
Auxiliary contacts	1,250	1,500	1,000	1,125
All other points	1,250	1,800	1,000	1,350

Dielectric strength (altitude) (see table VII) 1 minute

TABLE VII. Dielectric strength (altitude).

Dielectric strength	28 V dc	115 V ac
Coil to case	500	500
Auxiliary contacts	500	500
All other points	700	700

Maximum contact drop initial 0.150 volts
 After life test 0.175 volts
 Overload current (NO) 400 amperes
 Rupture current 1/ (NO) 500 amperes
 Duty rating Continuous
 RFI specification MIL-STD-461
 (Applicable to coil circuits of ac operated relays)

1/ Only 5 operations rupture after minimum current test.

PREPARING ACTIVITY: Air Force-85 CUSTODIANS: ARMY NAVY- AS AIR FORCE- 85 DLA- Agent: DLA-ES REVIEW: USER: PROJECT NUMBER: 5945-0852-01	MILITARY SPECIFICATION SHEET TITLE RELAYS, ELECTROMAGNETIC, 50 AMPERES, 3PST, N.O. TYPE I, HERMETICALLY SEALED	SPECIFICATION SHEET NUMBER MS27222K SUPERSEDING MS27222J 9 OCT 1990 AMSC N/A FSC 5945
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