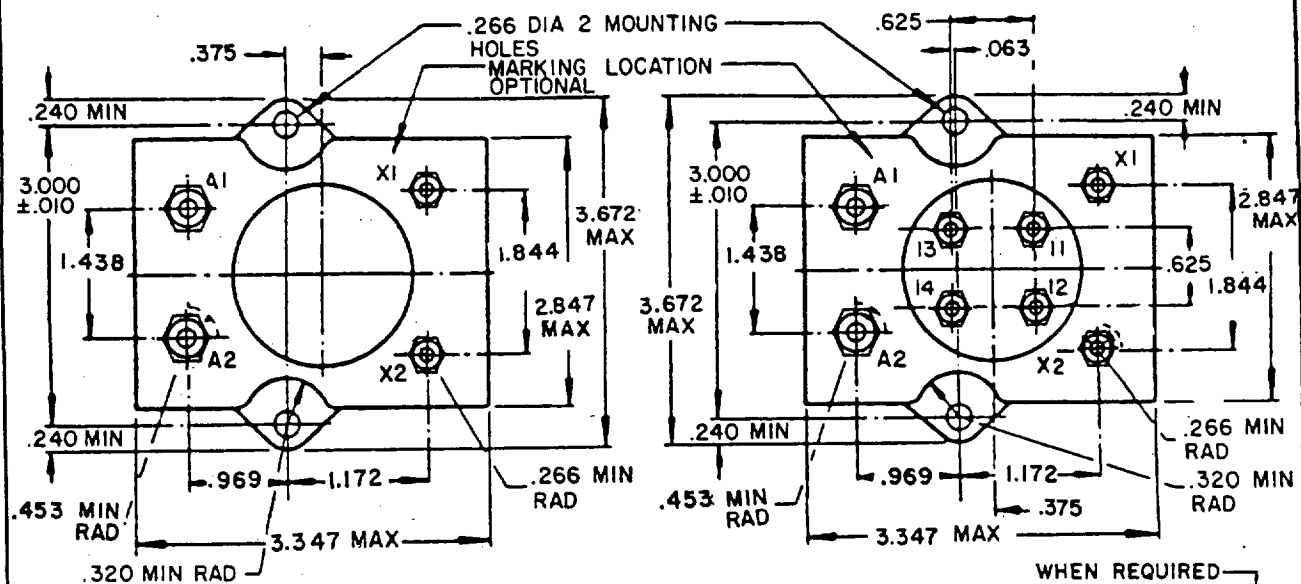
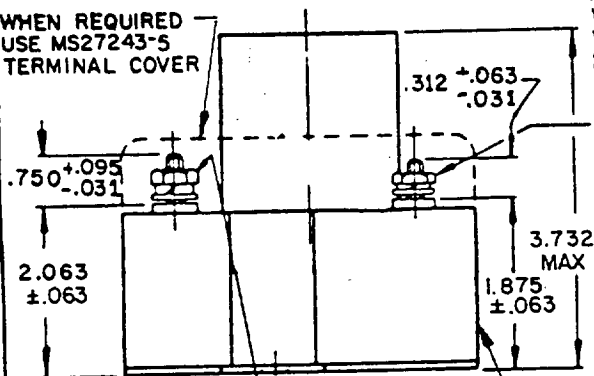


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WHEN REQUIRED
USE MS27243-5
TERMINAL COVER



D1, A1

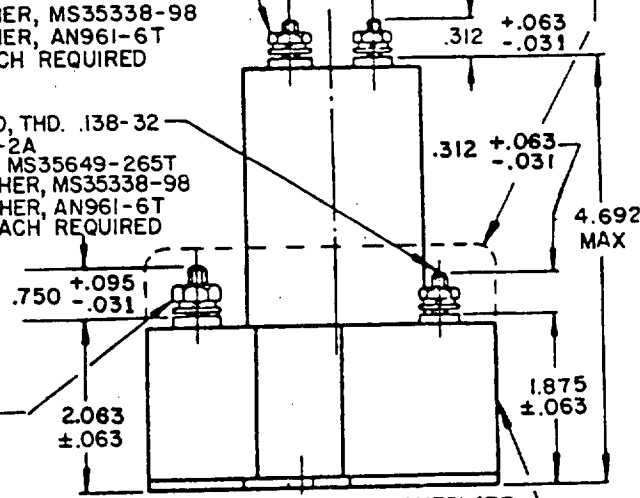
NAMEPLATE

STUD, THD .375-24 UNF-2A
NUT, MS35650-3385T
WASHER, MS35338-103
WASHER, AN961-616T

STUD, THD .138-32 UNC-2A
NUT, MS35649-265T
WASHER, MS35338-98
WASHER, AN961-6T
2 EACH REQUIRED

STUD, THD .138-32
UNC-2A
NUT, MS35649-265T
WASHER, MS35338-98
WASHER, AN961-6T
2 EACH REQUIRED

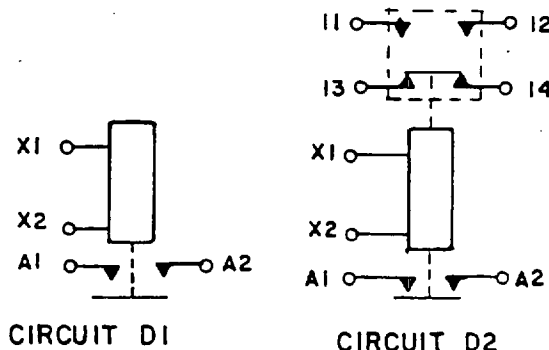
WHEN REQUIRED
USE MS27243-5
TERMINAL COVER



D2, A2

NAMEPLATE

Inches	mm	Inches	mm	Inches	mm
.010	0.25	.375	9.53	1.875	47.63
.031	0.79	.453	11.51	2.063	52.40
.063	1.60	.625	15.88	2.847	72.31
.095	2.41	.750	19.05	3.000	76.20
.138	3.51	.969	24.61	3.347	85.01
.240	6.10	1.172	29.77	3.672	93.27
.266	6.76	1.438	36.53	3.732	94.79
.312	7.92	1.844	46.84	4.692	119.18
.328	8.33				



CIRCUIT D1

CIRCUIT D2

PREPARING ACTIVITY: Air Force - 85
CUSTODIANS: ARMY - NAVY - AS
AIR FORCE - 85 DLA -
Air Force - 11, 99
REVIEW: Navy - AS, EC
USER:
PROJECT NUMBER: 5945-0810-03

DISTRIBUTION STATEMENT

A: Approved for public release; distribution is unlimited.

MILITARY SPECIFICATION SHEET

TITLE RELAYS, ELECTROMAGNETIC,
200 AMPERES, 1PST (NO),
TYPE I, HERMETICALLY SEALED

SPECIFICATION SHEET NUMBER

MS24142J 20 Feb 90

SUPERSEDING
MS24142H 25 Sept 82

AMSC N/A FSC 5945

THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

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THE SOLICITATION: MIL-R-6106.

Form Approved
OMB No. 0704-0188

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are $\pm .031$.
4. This specification sheet takes precedence over documents referenced herein.
5. Referenced documents shall be of the issue in effect on date of invitation for bid.
6. Coil and auxiliary terminals may use additional flat washer for terminal seat.

TABLE I. Part numbers and characteristics. 1/

Part number MS24142-	Type	Coil	Terminal type	Mounting or mating socket	Auxiliary contacts	Maximum weight in pounds 2/
D1 D2	I	dc	Stud	Flange	None Yes	2.3 2.5

1/ A1 and A2 have been cancelled without replacement.

2/ Weights include covers and barriers.

TABLE II. Operating characteristics.

Part number	Coil	Coil data										Time - milliseconds max				1/		
		Nominal		Max		Max pick-up voltage				Drop out voltage 1/	Operate 3/	Release 4/	Bounce					
		Volts 2/	Freq Hz	Volts	Amp	Normal 1/	High	Cont	Hold				Main	Aux				
				Res +15% -10														
D1	X1,X2	28	dc	52	29	.6	18	21	22.5	7	1.5	40	15	2	---	---		
D2	X1,X2	28	dc	52	29	.6	18	21	22.5	7	1.5	40	15	2	---	3	3	

1/ Over the temperature range.

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

3/ With nominal coil voltage.

4/ From nominal coil voltage.

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200 AMPERES, 1PST (NO),
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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/			
		Main		Aux		Main		Aux		Main		Aux	
		NO	NC	NO	NC	1400 Hz	160 Hz	400 Hz	160 Hz	400 Hz	160 Hz	400 Hz	160 Hz
Resistive	50	200		5	5	200		5					
Inductive	10	100		5	5								
Inductive													
Motor	50	200				150							
Lamp				.75	.75			.75					
Transfer load 2/													
Mechanical life reduced current	100	50		1.25	1.25	50		1.25					
Intermediate current	50	20		Per spec	20								

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.

PREPARING ACTIVITY: Air Force - 85
CUSTODIANS: ARMY - NAVY - AS
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200 AMPERES, 1PST (NO),
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Page 3 of 4

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Environmental characteristics

Temperature range -70° to +125°C
Maximum altitude rating 80,000 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 15 g's

TABLE IV. Vibration levels.

Part number	5-10 Hz	10-55 Hz	55-250 Hz	250-500 Hz	500-1,500 Hz
MS24142-					
D1	.08 DA	.06 DA	10 g's	5 g's	4 g's
D2				3 g's	3 g's

TABLE V. Qualification by similarity.

Part number MS24142-	Loads						Dynamics 1/3/			Environmental		
	Type 1			Type 1 ER								
	A	B	C	D	E	F	A	B	C	A	B	C
D1	4											
D2	4 2/						2	2		4	4 2/	

- 1/ For Group C testing, each dash number shall be tested to meet vibration requirements.
2/ Testing of relays with auxiliary contacts. Reference appendix I.
3/ All relays must be tested. Reference MIL-R-6106, appendix I.

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	1,500	1,000 V rms	1,125
Aux contacts	1,250 V rms	1,500	1,000 V rms	1,125
All other points	1,250 V rms	1,500	1,000 V rms	1,125

Dielectric strength (altitude) 1 minute

	28 V dc	115 V ac
Coil to case	500 V rms	500
Aux contacts	500 V rms	500
All other points	500 V rms	500

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 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, AS
Air Force - 11, 99
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