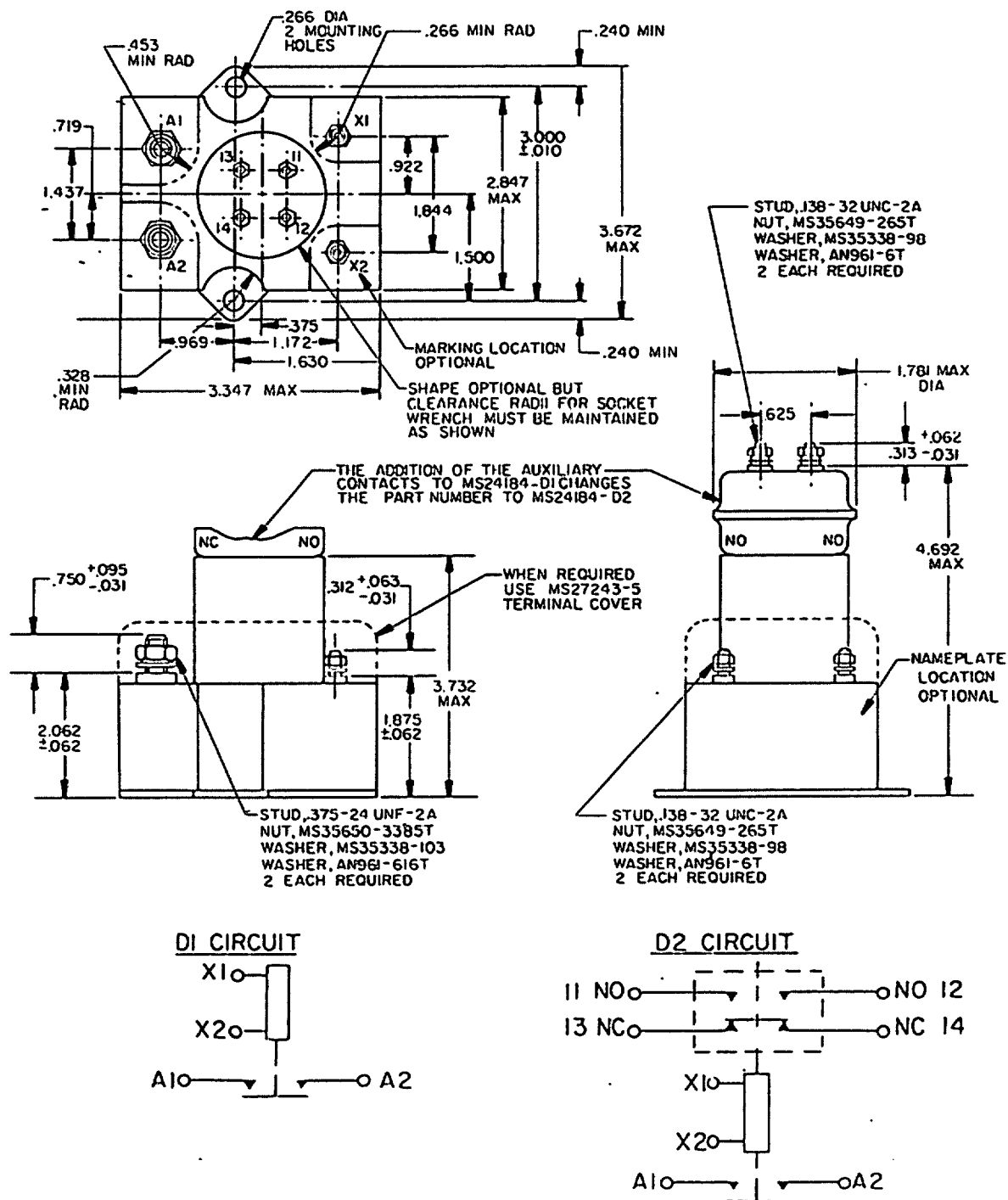


THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE ODDISS SPECIFIED IN THE SOLICITATION: MIL-R-6106.



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

PREPARING ACTIVITY: Air Force - 85  
CUSTODIANS: ARMY - ER, NAVY - AS  
AIR FORCE - 85, DLA

REVIEW:  
USER:

PROJECT NUMBER: 5945-0840

DISTRIBUTION STATEMENT

# MILITARY SPECIFICATION SHEET

TITLE  
RELAY, 300 AMPERES, 1PST, N.O.  
TYPE I, HERMETICALLY SEALED

SPECIFICATION SHEET NUMBER

**MS24184K** 26 July 1990

SUPERSEDING

MS24184J 24 September 1982

AMSC N/A

FSC 5945

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Inches	mm	Inches	mm	Inches	mm	Inches	mm
.010	0.25	.312	7.92	1.172	29.77	1.875	47.63
.031	0.79	.328	8.22	1.380	35.05	2.062	52.37
.062	1.57	.375	9.53	1.437	36.50	2.815	71.50
.063	1.60	.453	11.51	1.500	38.10	3.000	76.20
.091	2.31	.719	18.26	1.630	41.40	3.315	84.20
.138	3.51	.750	19.05	1.820	46.23	3.640	92.46
.240	6.10	.922	23.42	1.844	46.84	3.700	93.98
.266	6.76	.969	24.61				

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is  $\pm .031$ .
4. Coil and auxiliary terminals may use additional washer for terminal seat.
5. Weights include covers and barriers.
6. All test requirements of specification MIL-R-6106 apply except off time for motor load shall be six seconds minimum and average contact voltage drop reading before tests shall not exceed .15 volt.
7. PIN MS24184-1 inactive for design after 10 December 1957.  
PIN MS24184-D1 replaces MS24184-1.
8. Referenced documents shall be of the issue in effect on date of invitation for bid.

TABLE 1. PIN and characteristics.

PIN MS24184- 1/ 2/	Type	Coil type	Terminal type	Mounting or mating socket	Auxiliary contacts	Max weight in pounds
D1	I	dc	Stud	Flange	N/A	2.4
D2	I	dc	Stud	Flange	With	2.5

1/ MS24184-A1 has been canceled without replacement.

2/ The term Part or Identifying Number (PIN) is equivalent to MS dash numbers.

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TABLE II. Operating characteristics.

PIN MS24184-	Coil data										Time milliseconds max						
	Nominal				Max		Max pick-up voltage				Operate	Release	Contact bounce				
	Coil	Volts 1/	Freq. Hz	Res. +15% -10	Volts	Amp.	Normal	High temp test	Dropout voltage	Hold voltage			Main	Aux			
															NO	NC	NO
D1	X <sub>1</sub> , X <sub>2</sub>	28	dc	52	29	.6	18	21	22.5	1.5	7	35	15	2.5			
D2	X <sub>1</sub> , X <sub>2</sub>	28	dc	52	29	.6	18	21	22.5	1.5	7	35	15	2.5	---	5	5

1/ Caution: use of any coil voltage less than the nominal coil voltage will compromise the operation of the relay.  
 2/ Over temperature range.  
 3/ With nominal coil voltage.  
 4/ 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				See appropriate notes
		Main		Aux		Main		Aux		
		NO	NC	NO	NC	400 Hz	60 Hz	400 Hz	60 Hz	
Resistive	50	300		5	5	300		5		
Inductive	50	100		5	5			5		
Motor <u>1</u> /	50	250				150				
Lamp				.75	.75			.75		
Transfer load										<u>2</u> /
Mechanical life reduced current	100	75		1.25	1.25	75		1.25		
Intermediate current	50	AS APPLICABLE PER MIL-R-6106								

1/ Off time for motor load shall be 6 seconds min.

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

## ENVIRONMENTAL CHARACTERISTICS

Temperature rating: -70°C to +71°C  
 Maximum altitude rating: 80,000 feet  
 Shock g-level: 25 g  
 Duration: 6-9 ms  
 Max duration contact opening: 2 ms  
 Vibration-sinusoidal (per table IV)  
 G-level (per table IV): g  
 Frequency range: Hz  
 Vibration-random  
 Application spec: N/A  
 Power spectral density: N/A  
 RMS g min: N/A  
 Frequency range: N/A  
 Curve: N/A  
 High shock: N/A  
 Acceleration: 15 g

## ELECTRICAL CHARACTERISTICS

Min insulation resistance, initial: 100 MΩ  
 After life or environmental tests: 50 MΩ  
 Dielectric strength (sea level): 2-5 s

	Initial		After life tests	
	28 V dc	115 V ac	28 V	115 V
Coil to case	1250	1500	1000	1125
Aux contacts	1250	1500	1000	1125
All other points	1250	1500	1000	1125

Dielectric strength (altitude): 1 minute

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

Average contact drop initial: .150 V  
 Max after life test: .175 V  
 Overload current (NO): 2400 A  
 Rupture current (NO): 3000 A  
 Duty rating: Continuous  
 RFI spec: MIL-STD-461  
 (Applicable to coil circuits of ac operated relays)

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TABLE IV. Vibration level.

PIN MS24184-	Vibration level				
	5-10 Hz	10-55 Hz	55-250 Hz	250-500 Hz	500-1500 Hz
D1	.08 DA	.06 DA	10 g's	5 g's	4 g's
D2	.08 DA	.06 DA	10 g's	5 g's	4 g's

TABLE V. Qualification by similarity.

PIN MS24184-	Loads						Dynamics 1/			Environmental 1/		
	Type I			Type I ER								
	A	B	C	D	E	F	A	X	Y	A	B	C
D1	4						2			4		
D2	4 2/						2			4 2/		

1/ All relays must be tested. Reference MIL-R-6106, appendix I.

2/ Testing of relay with auxiliary contacts. Reference MIL-R-6106, appendix I.

Revision letters are not used to denote changes  
due to the extensiveness of the changes.

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