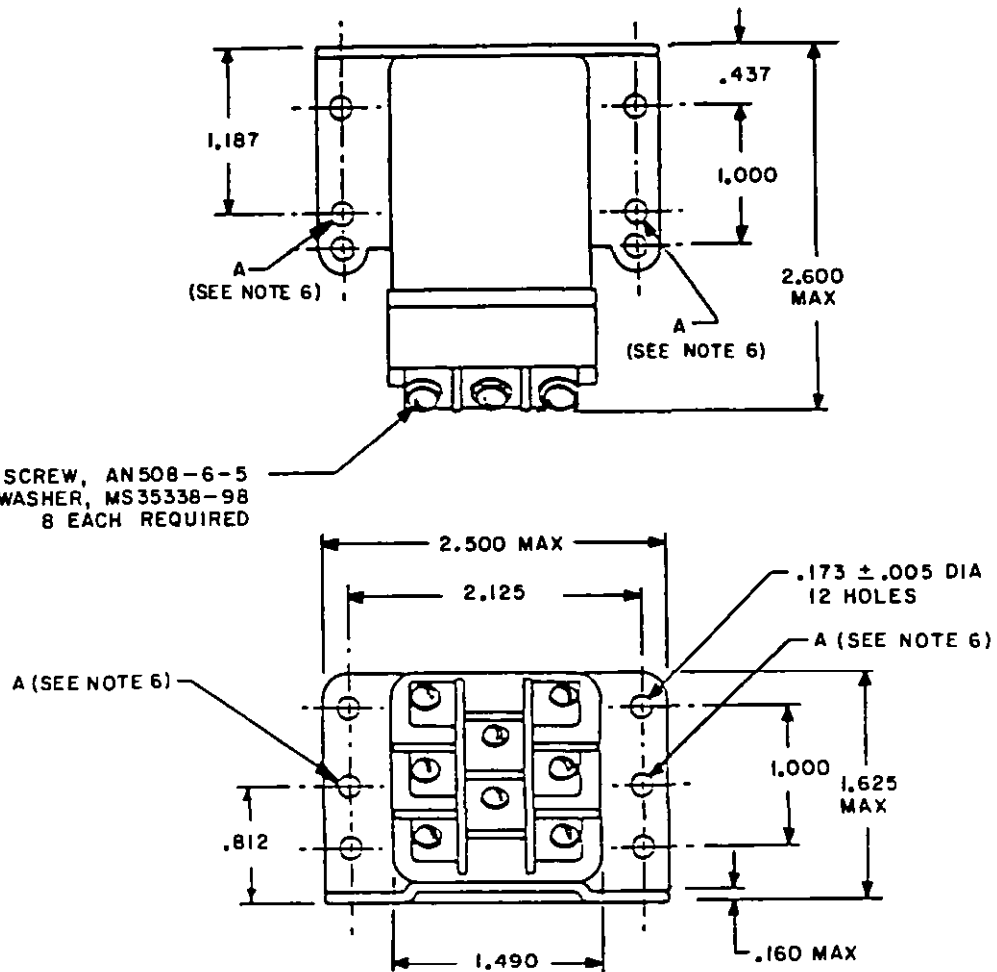


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Navy -  
Air Force -Review activities: Army -  
Navy - EC  
Air Force - 11

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SCREW, AN508-6-5  
LOCKWASHER, MS3538-98  
8 EACH REQUIRED

Ⓓ ENTIRE STANDARD REVISED

P.A. USAF - 85 Other Cust Navy - AS	International Interest	TITLE RELAYS, ELECTROMAGNETIC, 2 PDT 10 AMPERES, TYPE I, HERMETICALLY SEALED	MILITARY STANDARD
			MS24149
Procurement Specification MIL-R-6106		SUPERSEDES:	PAGE 1 OF 5

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1 MAY 73  
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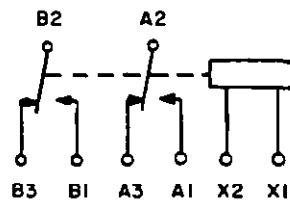
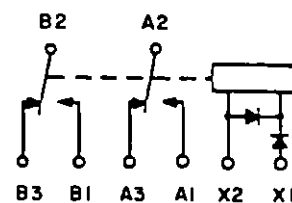
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CIRCUIT DIAGRAM  
DC COILSCIRCUIT DIAGRAM  
AC COILS  
(SEE NOTES 7 AND 8)

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are  $\pm 0.010$  (0.25 mm).
4. Part number MS24149-D1 replaces part numbers AN3311-1 and AN3311-2.
5. Interchangeability relationship - MS24149 parts can universally replace the inactivated AN3311 parts identified by the same dash numbers; but inactivated AN3311 parts cannot always replace the superseding MS24149 parts. AN3311 is not to be used for new design.
6. Mounting holes 'A' to be used only when replacing AN3311.
7. The use of diodes on ac relays is optional. Actual application must be shown on label.
8. AC coils are inactive for new design.
9. In the event of a conflict between the text of this standard and the references cited herein, the text of this standard shall take precedence.
10. 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 standard to the extent specified herein.

TABLE 1. Dash numbers and characteristics.

Dash number MS24149-	Type	Coil	Terminal type	Mounting or mating socket	Auxiliary contacts	Max weight in pounds
D1	I	dc	Screw	Bracket	N/A	0.44
A1 1/	I	ac	Screw	Bracket	N/A	0.44

1/ Dash number -A1 is inactive for new design and shall be used for support of existing equipment designs only

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MS part no. MS25149-	Coil data							Drop- out voltage 2/ 2/	Hold voltage 2/ 2/	Operate 3/ 3/	Release 4/ 4/	Time - (milliseconds maximum)					
	Coil		Nominal		Max		Max pick-up voltage					Contact		Bounce			
	Volts 1/ 1/	Freq. Hz	Res Ω	Volts	Ampere	Normal 2/ 2/						High temp test	Cont current test	Main	Aux	NO	NC
D1	dc	28	N/A	160	29	0.25	18	19.5	22.5	1.5	7.0	20	20	2	2		
A1 5/	ac	115	400	N/A	120	0.06	90	95	103	5	30	20	20	2	2		

1/ CAUTION: Use of any coil voltage less than nominal coil voltage will compromise the operation of the relay.  
 2/ Over the temperature range.  
 3/ With nominal coil voltage.  
 4/ From nominal coil voltage.  
 5/ Inactive for new design.

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User activities: Army -  
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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	Aux	Main	Aux	Main	Aux	Aux	
		NO	NC	NO	NC	160 Hz	400 Hz	160 Hz 400 Hz 160 Hz	
Resistive	50	10	10	10					
Inductive	10	10	10	10					
Inductive									
Motor	50	6	6	6					
Lamp	50	2	2	2					
Transfer load									2/
Mechanical life reduced current	200	2.5	2.5						
Intnd current	50	0.100	0.100						

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

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

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#### TITLE

RELAYS, ELECTROMAGNETIC, 2 PDT,  
10 AMPERES, TYPE 1, HERMETICALLY  
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#### MILITARY STANDARD

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5945

### Environmental characteristics

Temperature range -70°C to +125°C  
Max altitude rating 80,000 ft  
Shock G-level 25 G  
Duration 11 ms  
Max duration contact opening 10 µs  
Vibration - sinusoidal G-level 10 G  
Frequency range 10 - 1,500 Hz  
Acceleration 15 G

### Electrical characteristics

Minimum insulation resistance, initial 100 megohms  
After life or environmental tests 50 megohms

Dielectric strength (sea level)

	Initial	After life tests
Coil to case	1,250 V rms	1,050 V rms
Aux contacts		
All other points	1,500 V rms	1,250 V rms

Dielectric strength (altitude)

Coil to case	500 V rms
Aux contacts	
All other points	700 V rms

Max contact drop initial 0.150 volt  
After life test 0.175 volt  
Overload current 40 amperes dc  
Rupture current 50 amperes dc  
Duty rating Continuous  
RFI specification MIL-STD-461  
(Applicable to coil circuits of ac operated relays)

### Quality conformance inspection

Performance of groups B and C tests not applicable to -A1.

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### TITLE

RELAYS, ELECTROMAGNETIC, 2 PDT,  
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