

INCH-POUND

MS24149E
 15 April 2003
SUPERSEDING
 MS24149D
 5 June 1987

DETAIL SPECIFICATION SHEET

RELAYS, ELECTROMAGNETIC, 2 PDT, 10 AMPERES,
 TYPE I, HERMETICALLY SEALED

INACTIVE FOR NEW DESIGN AFTER 5 JUNE
 1987. NO SUPERSEDING SPECIFICATION.

This specification is approved for use by all Departments
 and Agencies of the Department of Defense.

The requirements for acquiring the relay described herein shall
 consist of this specification and the latest issue of MIL-PRF-6106.

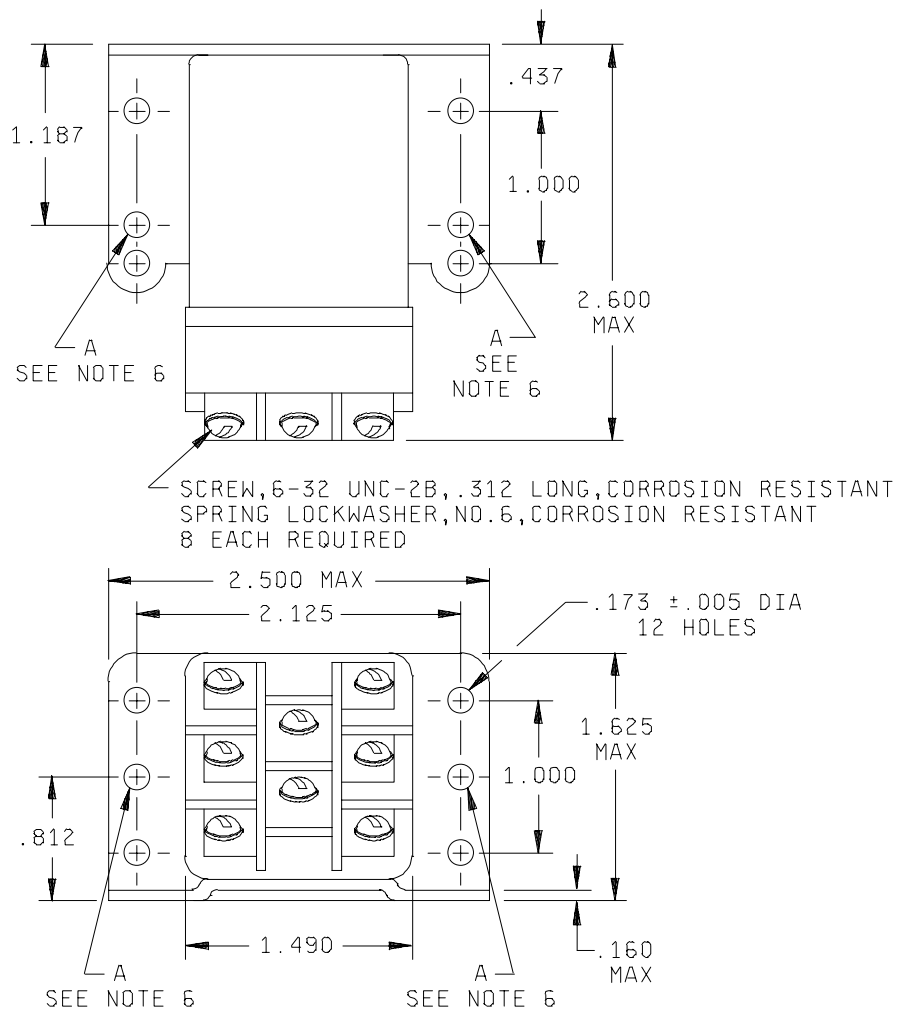
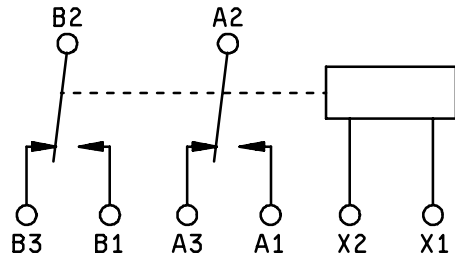
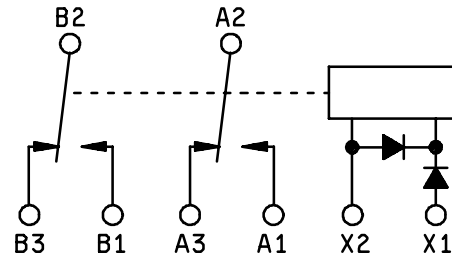


FIGURE 1. Dimensions and configurations.

MS24149E

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, tolerance is ± 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 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 specification and the references cited herein, the text of this specification 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 forms a part of this standard to the extent specified herein.
11. Cadmium or cadmium compounds are prohibited on external hardware. A transition period to non-cadmium hardware is authorized for up to 1 year from the date of this revision.

TABLE I. 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 <u>1/</u>	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.

FIGURE 1. Dimensions and configurations - Continued.

MS24149E

TABLE II. Operating characteristics.

PIN MS 24149-	Coil data										Time - (milliseconds maximum)						
	Coil	Nominal			Max		Max pick-up voltage			Drop out voltage 2/	Hold voltage 2/	Oper- ate 3/	Rel- ease 4/	Contact Bounce			
		Main		Aux													
		NO	NC	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	ac	115	400	N/A	120	0.06	90	95	103	5	30	20	50	2	2	---	---

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

2/ Over the temperature range.

3/ With nominal coil voltage.

4/ From nominal coil voltage.

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

Type of load	Life operat ing cycles x 10 ³	28 V dc				115 V ac, 1 phase				115/200 V ac, 3 phase 1/				See appro priate 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	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											
Mixed loads	50	0.100	0.100											

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

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

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 μ s

Vibration – sinusoidal

G-level 10 G

Frequency range 10 - 1,500 Hz

Acceleration 15 G

MS24149E

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

Dielectric strength (altitude): 1 minute.

	Initial	After life tests
Coil to case	500 V rms	500 V rms
Aux contacts	500 V rms	
All other points	500 V rms	700 V rms

Max contact drop initial: 0.150 volt.

After life test: 0.175 volt.

Overload current (NO): 40 amperes dc, 40 amperes ac.

Rupture current 50 amperes dc, 50 amperes ac.

Duty rating: Continuous.

RFI specification: MIL-STD-461.
(Applicable to coil circuits of ac operated relays).

Conformance inspection:

Performance of groups B and C tests may be suspended at the discretion of the qualifying activity.

Qualification by similarity: See MIL-PRF-6106.

Custodians:
NAVY - AS
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC

(Project 5945-1206-05)