

INCH-POUND

MS24152H  
 27 May 1994  
 SUPERSEDING  
 MS24152G  
 31 August 1982  
 AN3340  
 Revision 3  
 20 September 1957

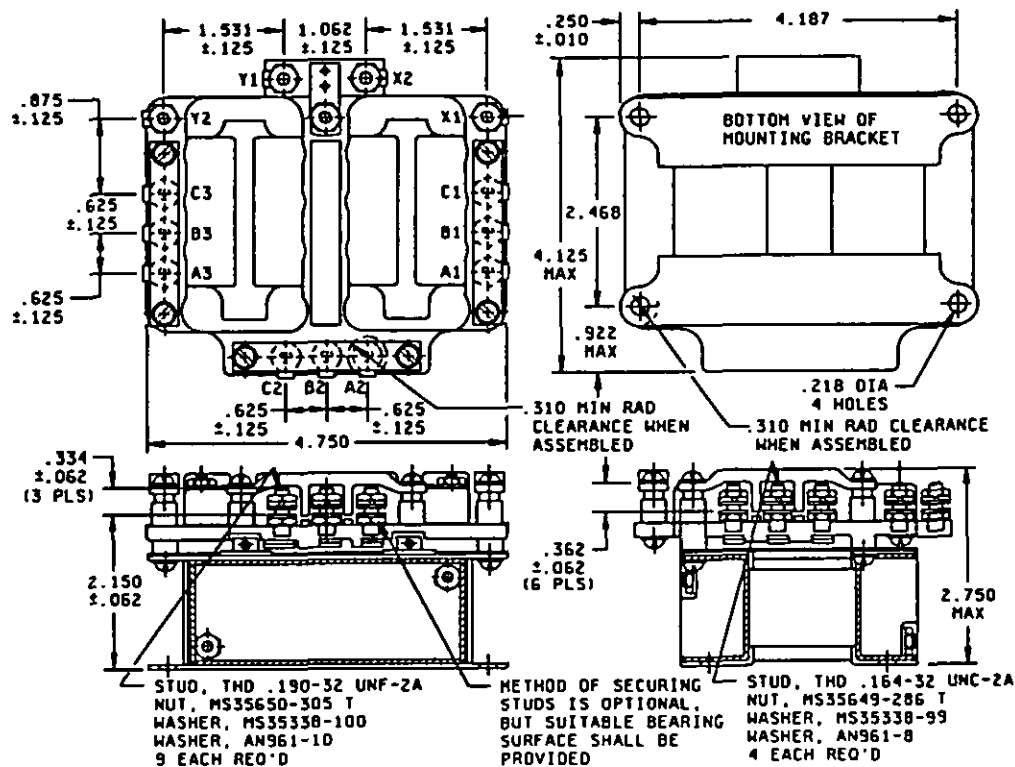
## MILITARY SPECIFICATION SHEET

(H) RELAY, ELECTROMAGNETIC, 25 AMPERES, 3 PDT, N.O. TYPE II,  
 NON-HERMETICALLY SEALED (MECHANICALLY INTERLOCKED)

Inactive for new design after 27 May 1994.  
 No superseding standard.

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

The requirements for acquiring the product described herein shall consist  
 of this specification sheet and the issue of the following specification  
 listed in that issue of the Department of Defense Index of Specifications  
 and Standards (DODISS) specified in the solicitation: MIL-R-6106.



(H) FIGURE 1. Dimensions and configuration.

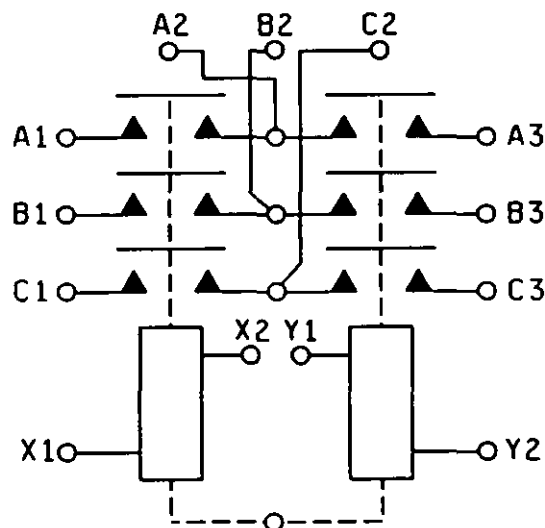
(H) denotes changes  
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AMSC N/A

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

FSC 5945

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**CIRCUIT DIAGRAM**  
**DE-ENERGIZED POSITION**

Inches	mm	Inches	mm	Inches	mm
.062	1.57	.625	15.88	2.468	62.69
.125	3.18	.922	23.42	2.750	69.85
.218	5.54	1.062	26.97	4.094	103.99
.250	6.35	1.531	38.89	4.187	106.35
.310	7.87	2.062	52.37	4.750	120.65
.344	8.74	2.141	54.38		

**NOTES:**

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Additional washer may be used for terminal seat.
4. Terminal covers and barriers are required at power terminals.
5. For design feature purposes, this standard takes precedence over procurement documents referenced herein.
6. Referenced documents shall be of the issue in effect on the date of invitations for bids.
7. Unless otherwise specified, tolerance is  $\pm 0.031$  inch (0.79 mm).

FIGURE 1. Dimensions and configuration - Continued.

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## REQUIREMENTS:

Dimensions and configuration: See figure 1.

Dash number and general characteristics: See table I.

## Contact data:

Load ratings: See table II.

Maximum contact drop, initial: 0.150 V.

After life test: 0.175 V.

Overload current (NO): 200 amperes.

Rupture current (NO): 250 amperes.

Coil data: See table III.

Duty rating: Continuous.

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

## Electrical data:

Minimum insulation resistance:

Initial: 100 megohms.

After life or environmental test: 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	N/A	1,000	N/A
Aux. contacts:	1,250	N/A	1,000	N/A
All other points:	1,250	1,500	1,000	1,125

## Altitude, 1 minute:

	28 V dc	115 V ac
Coil to case:	500	N/A
Aux. contacts:	500	N/A
All other points:	700	700

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**Environmental characteristics:**

Temperature range: -55°C to +71°C.

Maximum altitude rating: 50,000 feet.

Shock, g-level: 25 g's.

Duration: 6-9 ms.

Maximum duration contact opening: 2 ms.

Vibration, sinusoidal: See table IV.

Vibration, random: N/A.

High shock: N/A.

Acceleration: 10 g's.

Terminal strength (high temperature pull and torque test): Not applicable.

Part or Identifying Number (PIN): MS24152-D1.

Qualification by similarity: See table V.

(H) Supersession data: MS24152-D1 replaces AN3340-2.

(H) Quality conformance inspection: Performance of group B and group C tests is not applicable. Group A acceptance reports shall be submitted to the preparing activity on a yearly basis to retain qualification.

TABLE 1. Dash number and general characteristics.

PIN MS24152-	Type	Coil type	Terminal type	Mounting or mating socket	Auxiliary terminals	Max weight (pounds)
D1	II	dc	Stud	Flange	None	2.3

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(H) TABLE 11. Rated contact load (amperes per pole) (case grounded). 1/

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				2/ 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	25				25				25				
Inductive	10	25				25				25				
Motor	50	25				25				25				
Lamp														
Transfer load														3/
Mechanical life reduced current	100	6.3				6.3				6.3				
Intermediate current	50	2.5				2.5				2.5				

1/ Absence of value indicates parameter is not applicable to this specification.

2/ Absence of value indicates relay is not rated for three phase applications.

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

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H TABLE III. Operating characteristics.

PIN MS24152-	Coil data										Time (milliseconds maximum)					
	Coil	Rated		Max		Max pick-up		Hold voltage 2/ 2/	Drop-out voltage 2/ 2/	Oper-ate 3/ 3/	Re-lease 4/ 4/	Contact bounce				
		Volts 1/ 1/	Freq. Hz	Volts	A	Nor-mal 2/ 2/	High temp test					Cont cur- rent test	Main	Aux		
			Res $\Omega$ $\pm 10\%$	In- rush state		In- rush state					NO NC	NO NC				
D1	X1,X2 Y1,Y2	28	dc	22	92	1.46	0.45	18	21	22.5	7.0	1.5	20	15	3.0 5/	

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 rated coil voltage.

4/ From rated coil voltage.

5/ 6.0 milliseconds after electrical life.

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(H) TABLE IV. Vibration levels (sinusoidal).

PIN MS24152-	Frequency			
	5-10 Hz	10-55 Hz	55-250 Hz	250-500 Hz
D1	.08 DA	.06 DA	2 g's	2 g's

TABLE V. Qualification by similarity.

PIN MS24152-	Loads						Dynamics 1/			Environmental		
	Type 1			Type 1 ER			A	X	Y	A	B	C
	A	B	C	D	E	F						
D1	4						2			4		

1/ All units must be tested in accordance with amendment 1, appendix 1, MIL-R-6106 (construction, internal).

## CONCLUDING MATERIAL

Custodians:  
Navy - AS  
Air Force - 85

Preparing activity:  
Air Force - 85

Agent:  
DLA - ES

(Project 5945-0922)