

INCH-POUND

MS25030M  
 28 April 1995  
 SUPERSEDING  
 MS25030L  
 31 August 1982

## MILITARY SPECIFICATION SHEET

RELAY, 50 AMP, 2 POT N.O. TYPE II, NON-HERMETICALLY SEALED,  
 MECHANICALLY INTERLOCKED

(M)

Inactive for new design effective 28 April 1995.  
 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 (DDISS) specified in the solicitation: MIL-R-6106.

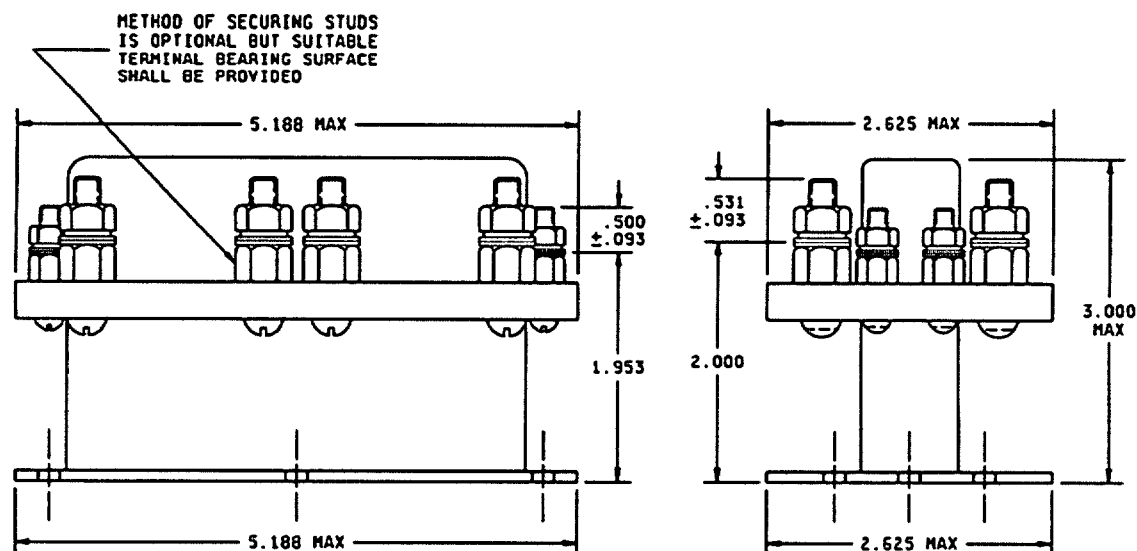


FIGURE 1. Dimensions and configuration.

(M)

denotes changes

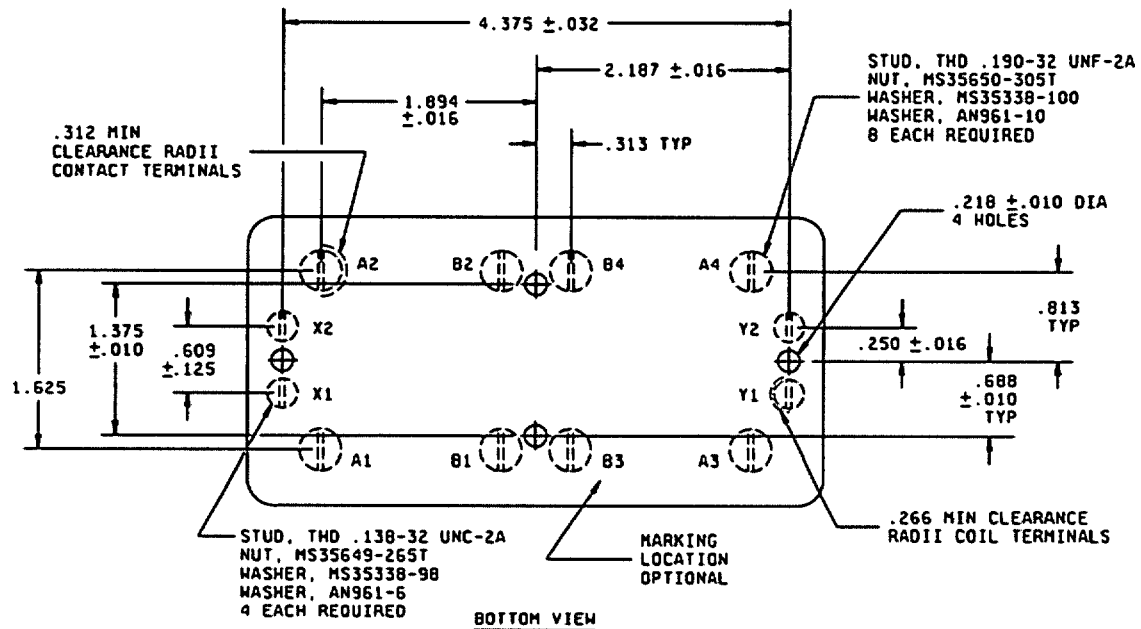
AMSC N/A

1 of 7

FSC 5945

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

## MS25030M



Inches	mm	Inches	mm
.010	0.25	.688	17.48
.093	2.36	.813	20.65
.125	3.18	1.375	34.93
.138	3.51	1.625	41.28
.190	4.83	1.938	49.23
.218	5.54	1.953	49.61
.266	6.76	2.000	50.80
.305	7.75	2.281	57.94
.312	7.93	2.625	66.68
.313	7.95	3.000	76.20
.500	12.70	4.562	115.88
.531	13.49	5.188	131.78
.609	15.47		

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is  $\pm .062$  (1.57 mm).
4. Coil and auxiliary terminals may use an additional flat washer for terminal seat.
5. Mechanical linkage shall be provided to prevent both relays from being closed simultaneously.
6. Referenced documents shall be of the issue in effect on the date of invitation for bid.
7. This standard takes precedence over the procurement documents referenced herein.

FIGURE 1. Dimensions and configuration - Continued.

## MS25030M

## REQUIREMENTS:

Dimensions and configuration: See figure 1.

Dash numbers 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): 400 amperes.

Rupture current (NO): 500 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:	500	500

## MS25030M

## 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.

Acceleration: 10 g's.

Part or Identifying Number (PIN): MS25030- (plus applicable dash number from table I).

Qualification by similarity: See table V.

Ⓜ Quality assurance provisions: Group B and group C testing are not required. In the event of a change in the design or construction of the part, the manufacturer shall notify the qualifying activity and shall impose additional testing requirements as necessary.

Ⓜ Supersession data: See table VI.

TABLE I. Dash numbers and general characteristics. 1/ 2/

PIN	Type	Coil type	Terminal type	Mounting or mating socket	Auxiliary contacts	Max weight (pounds) 1/
MS25030-D1B	II	dc	Stud	Plate	N/A	1.7

## MS25030M

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				See 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	50				50								
Inductive	10	50												
Motor	50	50				35								
Lamp														
Transfer load														2/
Mechanical life (reduced current)	100	12.5				12.5								
Minimum current	50	5												

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

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

MS25030M

### TABLE III. Operating characteristics.

PIN	Coil data										Time (milliseconds max/min)						
	Coil	Rated		Volts	Max	Max pick-up 1/		Hold voltage	Drop-out voltage 1/	Operate	Release	Bounce					
		Volts	Freq. Hz			Res $\Omega$ +15% -10%	A					Normal 1/	High temp test	Cont current test	Main	Aux	
											NO	NC	NO	NC			
D1B	X1,X2 Y1,Y2	28	DC	66	29	.5	18	21	22.5	7.0	1.5	25	15	5	n/a	n/a	n/a

**1/ Over the temperature range.**

**2/ With rated coil voltage.**

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

PIN MS25030-	Frequency				
	5 Hz-10 Hz	10 Hz-55 Hz	55 Hz-250 Hz	250 Hz-500 Hz	500 Hz-1500 Hz
018	.08 OA	.06 OA	2 a's	2 a's	n/a

**TABLE V. Qualification by similarity.**  $1/\sqrt{2}$

PIN MS25030-	Loads	Dynamics	Environmental
	Type 1	Type 1 ER	
	A B C D E F	A X Y A B C	
018	4	2	4

1/ Absence of value indicates that parameter is not applicable.

2/ ALL units must be tested. (Reference amendment 1, appendix 1, MIL-R-6106, construction, internal).

MS25030M

(M) TABLE VI. Supersession data.

Superseded PIN MS25030-	Replacement PIN MS25030-
2	D1B
3	D1B
D1A	D1B

## CONCLUDING MATERIAL

Custodians:  
Navy - AS  
Air Force - 85

Preparing activity:  
Air Force - 85

Agent:  
DLA - ES

(Project 5945-0945)