

INCH-POUND

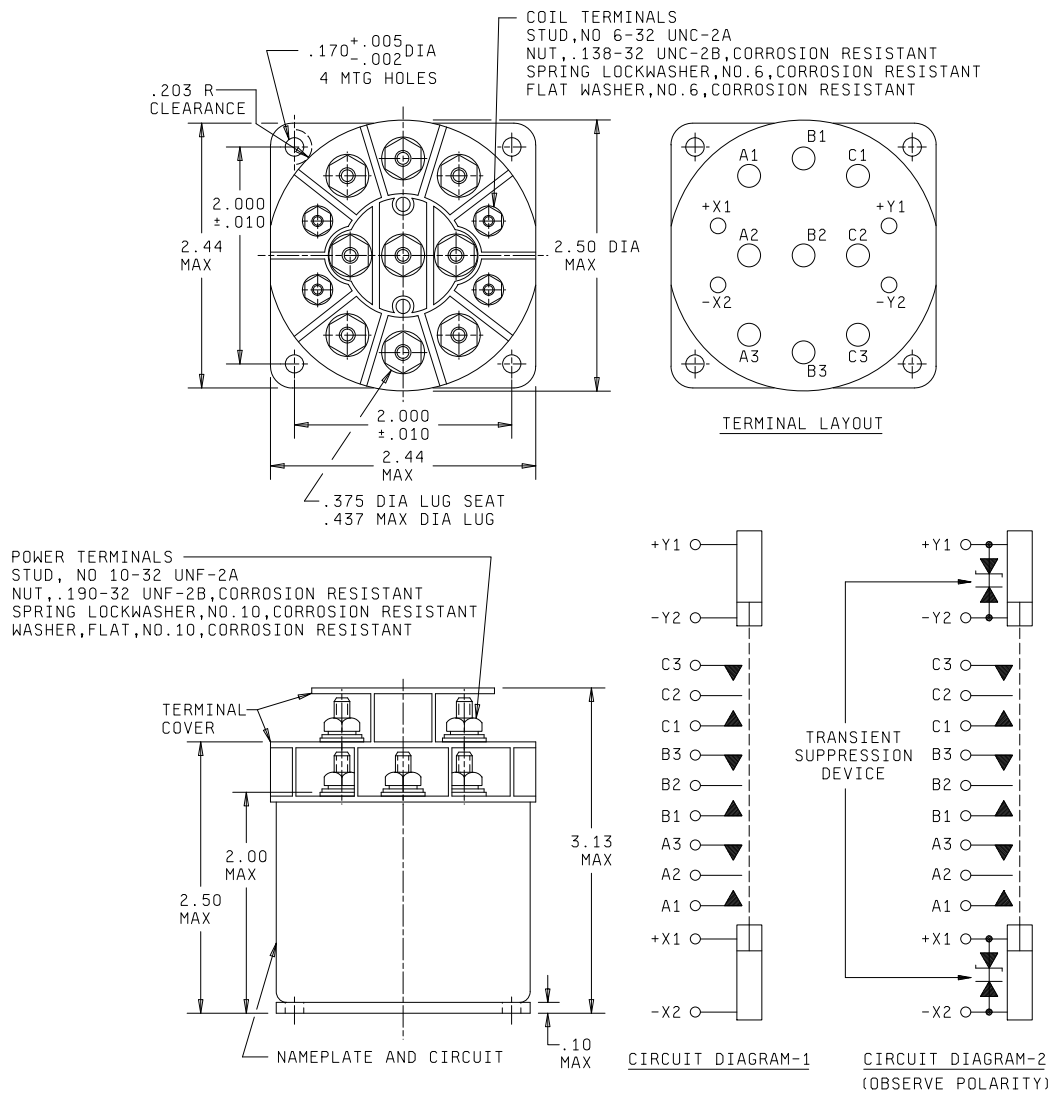
MS27750J  
 20 June 2016  
 SUPERSEDING  
 MS27750H  
 27 November 2003

DETAIL SPECIFICATION SHEET

RELAYS, ELECTROMAGNETIC, 50 AMPERES, 3 PDT-NO.,  
 CENTER OFF, HERMETICALLY SEALED

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](#).



## MS27750J

Inches	mm
.002	0.05
.005	0.13
.010	0.25
.10	2.5
.170	4.32
.203	5.16
.375	9.52
.437	11.10
2.000	50.80
2.44	62.0
2.50	63.5
3.13	79.5

## NOTES:

1. Dimensions are in inches.
2. Unless otherwise specified, tolerance is  $\pm 0.031$  (0.79 mm).
3. 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.
4. Referenced Government documents of the issue listed in that issue of the Acquisition Streamlining and Standardization Information System (ASSIST) specified in the solicitation forms a part of this standard to the extent specified herein.
5. Weight includes terminal barriers.
6. Suppression level - the maximum induced transient voltage (back EMF) shall be 42 volts.
7. Metric equivalents are given for general information only.

MS part number	Type	Coil	Terminal type	Mounting	Max weight in pounds
MS27750-1	I	dc	Stud	Plate	.969
MS27750-2	I	dc	Stud	Plate	.969

FIGURE 1. Dimensions and configurations - Continued.

## MS27750J

TABLE I. Operating characteristics.

Part no. MS 27750-	Coil data											Time - (milliseconds maximum)					
	Coil	Nominal			Max		Max pick-up voltage			Hold voltage <u>1/</u>	Drop out voltage <u>1/</u>	Oper-ate <u>2/</u>	Re-lease <u>3/</u>	Contact Bounce			
		Volts <u>1/</u>	Freq Hz	$\Omega$ Res Min	Volts	Amp	Normal <u>1/</u>	High temp test	Cont cur- rent test					Main		Aux	
														NO	NC	NO	NC
1	X1,X2	28	dc	150	29	.190	18	20	21	7.0	1.5	35	25	3	---	---	---
2	X1,X2	28	dc	150	29	.190	18	20	21	7.0	1.5	35	25	3	---	---	---

1/ Over temperature range.2/ With nominal coil voltage.3/ From nominal coil voltage.TABLE II. Rated contact load (amperes per pole) case grounded.

Type of load	Life operat- ing cycles $\times 10^3$	28 V dc				115 V ac, phase				115/200 V ac, 3 phase <u>2/</u>				See appro- priate notes
		Main		Aux		Main		Aux		Main		Aux		
		NO	NC	NO	NC	400 Hz	60 Hz	400 Hz	60 Hz	400 Hz		400 Hz	60 Hz	
Resistive <u>1/</u>	50	25				50				50				
Inductive	20	15												
Inductive	50					50				50				
Motor	40	15				30				30				
Lamp	50	10				15				15				
Transfer load	10					12.5				12.5				<u>3/</u>
Mechanical life reduced current	200	7				14				14				
Mixed loads	50	1				5				5				

1/ With nominal coil voltage.2/ Absence of value indicates relay is not rated for 3 phase applications.3/ Transfer load indicates relay is suitable for transfer between unsynchronized ac power supplies at rating indicated.

## Environmental characteristics:

Temperature range -55°C to +71°C

Max altitude rating 50,000 ft

Shock g-level 50 g

Duration 6 ms

Max duration contact opening 10  $\mu$ s

## Vibration sinusoidal

G-level 10 g

Frequency range 70-2,000 Hz

Acceleration: 15 g

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## Electrical characteristics:

Insulation resistance, initial	100 megohms
After life or environmental tests	50 megohms

## Dielectric strength (sea level):

	<u>Initial</u>	<u>After life tests</u>
Coil to case	1,000	1,000
Aux contacts	N/A	N/A
All other points	1,000	1,150

## Dielectric strength (altitude):

	<u>50,000 ft</u>
Coil to case	500 V rms
Aux contacts	N/A
All other points	700 V rms
Max contact drop initial	150 volts
After life test	175 volts
Overload current	100 A dc; 115/200 V ac 400 Hz 400 A
Rupture current	125 A dc; 115/200 V ac 400 Hz 400 A
Duty rating	Continuous

Qualification by similarity: See [MIL-PRF-6106](#).

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the previous issue.

Referenced document. This document references [MIL-PRF-6106](#).

Custodians:  
Navy - AS  
Air Force - 85  
DLA - CC

Preparing activity:  
DLA - CC  
(Project 5945-2016-027)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil/>.