

User activities: Army
Navy
Air Force

Reviewer activities: Army -AS, EC
Navy
Air Force 99, 11

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FED. SUP CLASS 5945																																																									
<p>STUD, THD .138-32 UNC-2A NUT, MS35649-265T WASHER, MS35338-98 WASHER, AN961-6T 2 EACH REQD</p> <p>STUD, THD .190-32 UNF-2A NUT, MS35650-305T WASHER, MS35338-100 WASHER, AN961-10T 4 EACH REQD</p> <p>CIRCUIT</p>																																																									
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<p>NOTES:</p> <ol style="list-style-type: none"> 1. Dimensions are in inches. 2. Metric equivalents are given for general information only and are based upon 1 inch = 25.4 mm. 3. Unless otherwise specified, tolerances are $\pm .031$. 4. Additional flat washer may be used for terminal seat. 5. Part No. MS24178-D1 replaces part No. MS24178-1. 6. For design feature purposes, this standard takes precedence over procurement documents referenced herein. 7. Referenced documents shall be of the issue in effect on date of invitation for bid. 																																																									
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Project No. 5945-C613-9

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OPERATING CHARACTERISTICS

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MS PART NO.	COIL DATA											TIME - MILLISECONDS - MAX ^{2/}						
	Coil	Nominal			Max		Max Pick-Up Voltage			Drop out voltage ^{1/}	Hold voltage ^{1/}	Operate	Release	Bounce				
		Volts	Freq Hz	Ω Res Min	Volts	Amp	Normal ^{1/}	High temp test	Cont current test					Main		Aux		
														NO	NC	NO	NC	
MS24178-D1	X1 X2	28	DC	59	29	.50	18	21	22.5	1.5	7	30	10	3.5	--	--	--	

RATED CONTACT LOAD (AMPERES PER POLE)

CASE GROUNDED

TYPE OF LOAD	LIFE OPERATING CYCLES X 10 ³	28 VDC				115 VAC, 1 PHASE				115/200 VAC, 3 PHASE ^{3/}				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	55	-	-	-	55	-	-	-	-	-	-	-	
INDUCTIVE	10	40	-	-	-	-	-	-	-	-	-	-	-	
INDUCTIVE														
MOTOR	50	40	-	-	-	35	-	-	-	-	-	-	-	
LAMP														
TRANSFER, LOAD														
MECHANICAL LIFE REDUCED CURRENT	100	14	-	-	-	-	-	-	-	-	-	-	-	
MIN CURRENT	50	5	-	-	-	-	-	-	-	-	-	-	-	

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QUALIFICATION BY SIMILARITY

MS PART NUMBER	LOADS						DYNAMICS ^{4/}			ENVIRONMENTAL		
	TYPE I			TYPE I ER								
	A	B	C	D	E	F	A	X	Y	A	B	C
	4						2			4		

NOTES, APPLICATION

- ^{1/} Over temperature range.
^{2/} With nominal coil voltage.
^{3/} Absence of value indicates relay is not rated for 3 phase applications.
^{4/} All relays must be tested. Reference MIL-R-6106, Appendix I.

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P.A. NAVY-AS Other Cust USAF 85	International Interest	TITLE RELAY, 55 AMP, 2PST, N.O. TYPE II NON-HERMETICALLY SEALED	MILITARY STANDARD MS24178
Procurement Specification MIL-R-6106	SUPERSEDES:		PAGE 2 OF 3

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ENVIRONMENTAL CHARACTERISTICS

TEMPERATURE RANGE -55° to +71°C
 MAX ALTITUDE RATING 50,000 FT
 SHOCK G-LEVEL 25 G
 DURATION 6-9 ms
 MAX DURATION CONTACT OPENING . . 2 ms
 VIBRATION - SINUSOIDAL (SEE CHART BELOW)
 G-LEVEL G
 FREQUENCY RANGE Hz
 VIBRATION-RANDOM
 APPLICABLE SPEC NA
 POWER SPECTRAL DENSITY NA
 RMS G MIN NA
 FREQUENCY RANGE NA
 CURVE NA
 HIGH SHOCK NA
 ACCELERATION 10 G

ELECTRICAL CHARACTERISTICS

MIN INSULATION RESISTANCE, INITIAL 100 MEGOHMS
 AFTER LIFE OR ENVIRONMENTAL TESTS 50 MEGOHMS

DIELECTRIC STRENGTH (SEA LEVEL) 2-5 SECONDS

	Initial		After Life Tests	
	28VDC	115VAC	28V	115V
COIL TO CASE	1250		1000	
AUX CONTACTS	1250		1000	
ALL OTHER POINTS	1250	1500	1000	1125

DIELECTRIC STRENGTH (ALTITUDE) 1 MINUTE

	28VDC	115VAC
COIL TO CASE	500	500
AUX CONTACTS	500	500
ALL OTHER POINTS	500	500

MAX CONTACT DROP INITIAL150 VOLTS
 AFTER LIFE TEST175 VOLTS

OVERLOAD CURRENT (NO) 440 AMPS

RUPTURE CURRENT (NO) 550 AMPS

DUTY RATING CONTINUOUS

RFI SPEC MIL-STD-461
 (APPLICABLE TO COIL CIRCUITS OF AC OPERATED RELAYS)

DASH NO.	VIBRATION LEVEL				
	5-10 Hz	10-55 Hz	55-250 Hz	250-500 Hz	500-1500 Hz
D1	.08 DA	.06 DA	2 G's	2 G's	

P.A. NAVY-AS Other Cus. USAF 85	International Symbol:	TITLE RELAY, 55 AMP, 2PST, N.O. TYPE II NON-HERMETICALLY SEALED	MILITARY STANDARD
			MS24178
Procurement Specification MIL-R-6106		SUPERSEDES:	PAGE 3 OF 3

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