FEDERAL SUPPLY CLASS
5925

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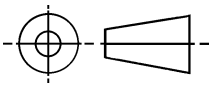
THIRD ANGLE PROJECTION



ISSUED 1999-04

PREPARED BY SAE SUBCOMMITTEE AE-8B1

PROCUREMENT SPECIFICATION: MIL-C-5809

SAE The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE STANDARD

CIRCUIT BREAKER-AIRCRAFT, TRIP-FREE, PUSH PULL,
1/2 THRU 20 AMPS, TYPE I
-55 THRU +121°C

AS33201
SHEET 1 OF 6

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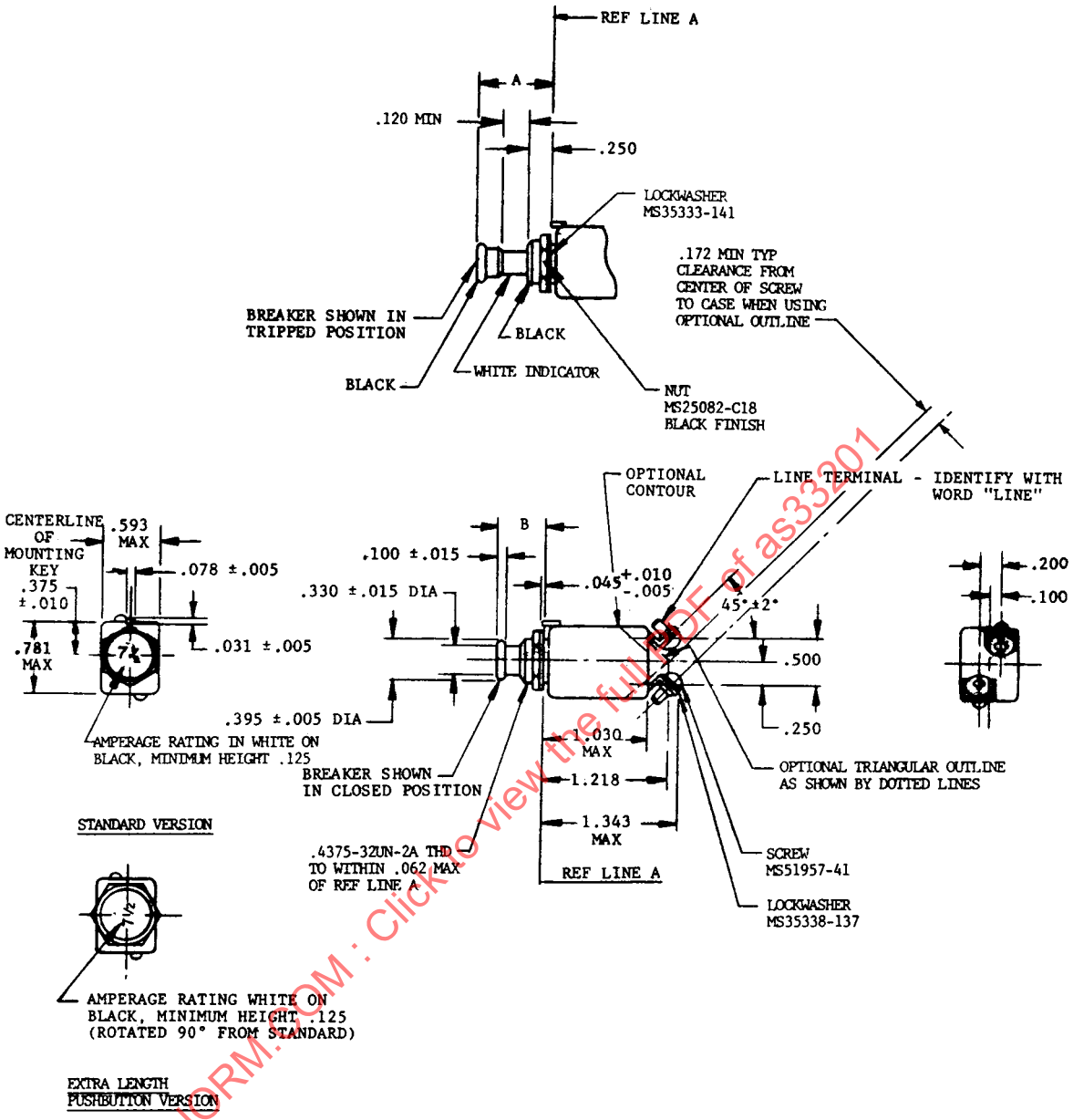


PUSHBUTTON	A (MAX)	B (MIN)
STANDARD	.750	.470
EXTRA LENGTH	1.125	.845

TABLE I

ELECTRICAL AND MECHANICAL CHARACTERISTICS										
DASH NO.	NOMINAL AMPERAGE RATING (A)	VOLTAGE DROP MAX (V)	WEIGHT MAX (LBS)	OPERATING FORCE MAX (LBS)		ENDURANCE CYCLES				
						RESISTIVE		INDUCTIVE		MECH NO LOAD
				PULLOUT	RESET	AC	DC	AC	DC	
1/2	0.5 (1/2)	1.90	.055	.75 to 5	1.2 to 8	1/ 5,000	2/ 5,000	1/ 2,500 .6 to .7 LAGGING POWER FACTOR	2/ 2,500	10,000
3/4	0.75 (3/4)	1.20								
1	1	1.10								
1-1/2	1.5 (1½)	0.80								
2	2	0.75								
2-1/2	2.5 (2½)	0.70								
3	3	0.55								
4	4	0.45								
5	5	0.35								
7-1/2	7.5 (7½)	0.30								
10	10	0.28								
15	15	0.25								
20	20	0.25								

1/ 400 HZ 115/200 VOLT SYSTEM, TESTED AT 120 ± 5 VOLTS 380-420 HZ.
2/ 28 VOLTS DC SYSTEM, TESTED AT 30 ± 2 VOLTS.

TABLE II

3/ DETAIL CALIBRATION REQUIREMENTS										
NOMINAL AMPERAGE RATING (A)	OVERLOAD TRIP TIME IN SECS AT PERCENT RATED CURRENT -55°C TO 121° C			AMBIENT EFFECT ON CALIBRATION AT PERCENT RATED CURRENT						
				+25°C		+121°C		-55°C		
	200%	500%	1000%	115%	138%	100%	138%	115%	160%	
0.5 (1/2)	1.5 to 40	0.15 to 3.0	.035 to 0.8	MUST HOLD - 1 HOUR MIN	MUST TRIP - 1 HOUR MAX	MUST HOLD - 1 HOUR MIN	MUST TRIP - 1 HOUR MAX	MUST HOLD - 1 HOUR MIN	MUST TRIP - 1 HOUR MAX	
0.75 (3/4)										
1										
1.5 (1½)										
2										
2.5 (2½)										
3										
4										
5										
7.5 (7½)										
10										
15										
20										

AMBIENT TEMPERATURE TOLERANCE ±2°C
3/ SEE TABLE VII FOR ADDITIONAL CALIBRATION PERFORMANCE REQUIREMENTS.

TABLE III

INTERRUPTING CURRENT (AMPERES) REQUIREMENTS 4/						
NOMINAL AMPERAGE RATING (A)	TEST DESIGNATION PER MIL-C5809					
	A	B	C	D	E	F
0.5 (1/2)	2800	2800	6000	6000	(a) 1,500 (b) 750	(a) 3,000 (b) 1,000
0.75(3/4)						
1	3500	3500				
1.5 (1/2)	2800	2800				
2						
2.5 (2½)						
3	2500	2500				
4						
5						
7.5 (7½)						
10						
15						
20	2000	2000				

4/ SEE TABLE V FOR ADDITIONAL INTERRUPTING REQUIREMENTS.

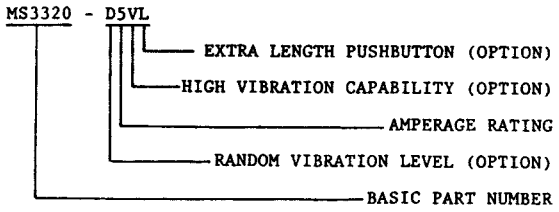
TABLE IV

ENVIRONMENTAL PERFORMANCE	
MAX OPERATING ALTITUDE - OPERATING AMBIENT TEMP RANGE	70,000 FEET -55°C TO +121°C
VIBRATION - IN ACCORDANCE WITH MIL-C5809	SINE - REQUIRED HIGH LEVEL SINE - (OPTIONAL) RANDOM - (OPTIONAL)
SHOCK	50G, MIL-STD-202, METHOD 213, CONDITION A
ACCELERATION	10G

REQUIREMENTS:

1. HIGH TEMPERATURE VIBRATION TESTS SHALL BE CONDUCTED AT 121°C RATHER THAN 71°C.

2. THE PART NUMBERS FOR CIRCUIT BREAKERS IN ACCORDANCE WITH THIS SPECIFICATION SHALL CONFORM TO THE EXAMPLE BELOW.



WHEN A DESIGNATOR IS NOT APPLICABLE IT SHALL BE OMITTED FROM THE PART NUMBER.

3. ALL QUALIFICATION INSPECTION TESTS REQUIRED BY MIL-C-5809 SHALL BE PERFORMED EXCEPT FOR THE FOLLOWING CHANGES:

   a. TEST GROUP I - OVERLOAD CALIBRATION SHALL BE PERFORMED AT 200% OF RATED CURRENT ONLY.
   b. TEST GROUPS II AND III - DO NOT PERFORM THE VOLTAGE DROP TEST.
   c. TEST GROUP IV AND X - PERFORM THE AMBIENT EFFECT ON CALIBRATION TEST ONLY AT +121°C.
   d. ADD TEST GROUP XXIV - 2 SAMPLES - INTERRUPTION CAPACITY - LINE TO LINE (AC). THESE SAMPLES SHALL BE SUBJECTED TO THE INTERRUPTING CAPACITY TEST AS FOLLOWS:

TABLE V

TEST NO.	SYSTEM	VOLTAGE BEFORE FAULT	CALIBRATED FAULT CURRENT AMPERES	TRANSIENT VOLTAGE AFTER CALIBRATED FAULT CURRENT INTERRUPTION (V)	OPEN CIRCUIT VOLTAGE
A	400 CYCLE 115/200 VOLT	200 ± 8V	1200A IN 10 TO 25 CYCLES AFTER FAULT INITIATION THROUGH TWO CIRCUIT BREAKERS IN SERIES POWER FACTOR .4 TO .5 LAGGING	208 WITHIN 3 CYCLES 260 WITHIN 6 CYCLES 286 MAXIMUM	200 ± 8V

   e. ADD TEST GROUP XXV-5 SAMPLES OF EACH RATING. EACH OF THESE 5 SAMPLES SHALL BE SUBJECTED TO THE TESTS IN TABLE VII AND SHALL MEET THE REQUIRED LIMITS SHOWN. THESE 5 SAMPLES SHALL NOT BE SUBJECTED TO TEST GROUP 1.

      (1) THESE TESTS SHALL BE PERFORMED WITH 36 INCH WIRES CONFORMING TO MIL-W-22759/4 OR MS25471 AND TERMINATIONS AS SPECIFIED BELOW. ALL OTHER TESTS CALLING FOR WIRE LEADS SHALL BE PERFORMED AS SPECIFIED IN MIL-C-5809.