AS14105

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PREPARED BY SUBCOMMITTEE AE-8B1

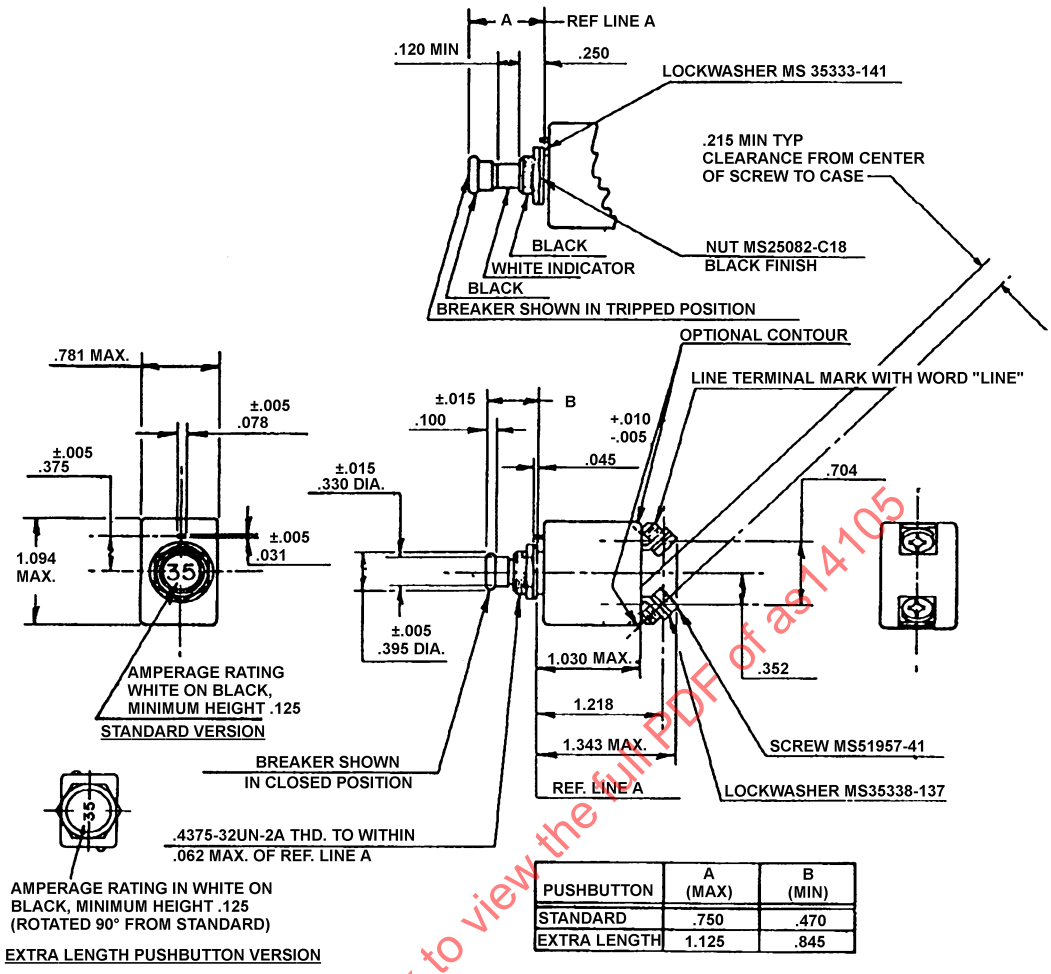
SAE The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE STANDARD

CIRCUIT BREAKER - AIRCRAFT, TRIP-FREE, PUSH PULL,
25 THRU 35 AMPS, TYPE I
-55 TO +121°C

Printed in the U.S.A.

QUESTIONS REGARDING THIS DOCUMENT: (412) 772-8510 FAX: (412) 776-0243



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

TABLE I

ELECTRICAL AND MECHANICAL CHARACTERISTICS										
DASH #	NOMINAL AMPERAGE RATING (A)	VOLTAGE DROP MAX. (V)	WEIGHT MAX. (LBS)	OPERATING FORCE MAX. (LBS)		ENDURANCE CYCLES				MECH NO LOAD
						RESISTIVE		INDUCTIVE		
				PULLOUT	RESET	AC	DC	AC	DC	
25 30 35	25 30 35	.250	.082	5	5	1/ 5,000	2/ 5,000	1/ 2,500	N.A.	10,000

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

TABLE II

DETAIL CALIBRATION REQUIREMENTS 3/									
NOMINAL AMPERAGE RATING (A)	OVERLOAD TRIP TIME IN SECS AT PERCENT RATED CURRENT			AMBIENT EFFECT ON CALIBRATION AT PERCENT RATED CURRENT					
	-55°C TO +121°C			+25°C		+121°C		-55°C	
	200%	500%	1000%	115%	138%	85%	138%	115%	165%
25 30 35	2 to 35	0.25 to 3.0	0.06 to 0.7	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.

3/ SEE TABLE VI FOR ADDITIONAL CALIBRATION PERFORMANCE REQUIREMENTS.

TABLE III

INTERRUPTING CURRENT (AMPERES) REQUIREMENTS 4/						
NOMINAL AMPERAGE RATING (A)	TEST DESIGNATION PER MIL-C-5809					
	A	B	C	D	E	F
25 30 35	2,000	2,000	6,000	6,000	(a) 1,500 (b) 750	(a) 3,000 (b) 1,000

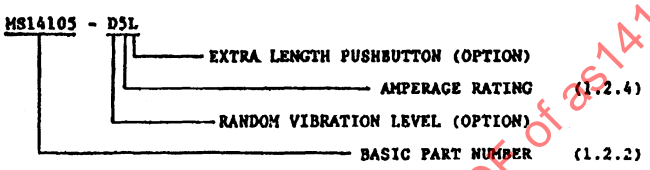
4/ SEE TABLE V FOR ADDITIONAL INTERRUPTING REQUIREMENTS.

TABLE IV

ENVIRONMENTAL PERFORMANCE	
MAX OPERATING ALTITUDE	70,000 FEET
OPERATING AMBIENT TEMP RANGE	-55°C TO +121°C
VIBRATION - IN ACCORDANCE WITH MIL-C-5809	SINE - REQUIRED RANDOM - (OPTIONAL)
SHOCK	50 G, MIL-STD-202, METHOD 213, TEST CONDITION A
ACCELERATION	10 G

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:



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. RUPTURE CAPACITY - LINE TO LINE (AC). THESE SAMPLES SHALL BE SUBJECTED TO THE RUPTURE 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 Hertz 115/200 V	200 ±8 V	1200 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 ±8 V

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