AEC9044 BATTERY CAPACITY TESTER AND LV WARNING

(PRELIMINARY DATA)

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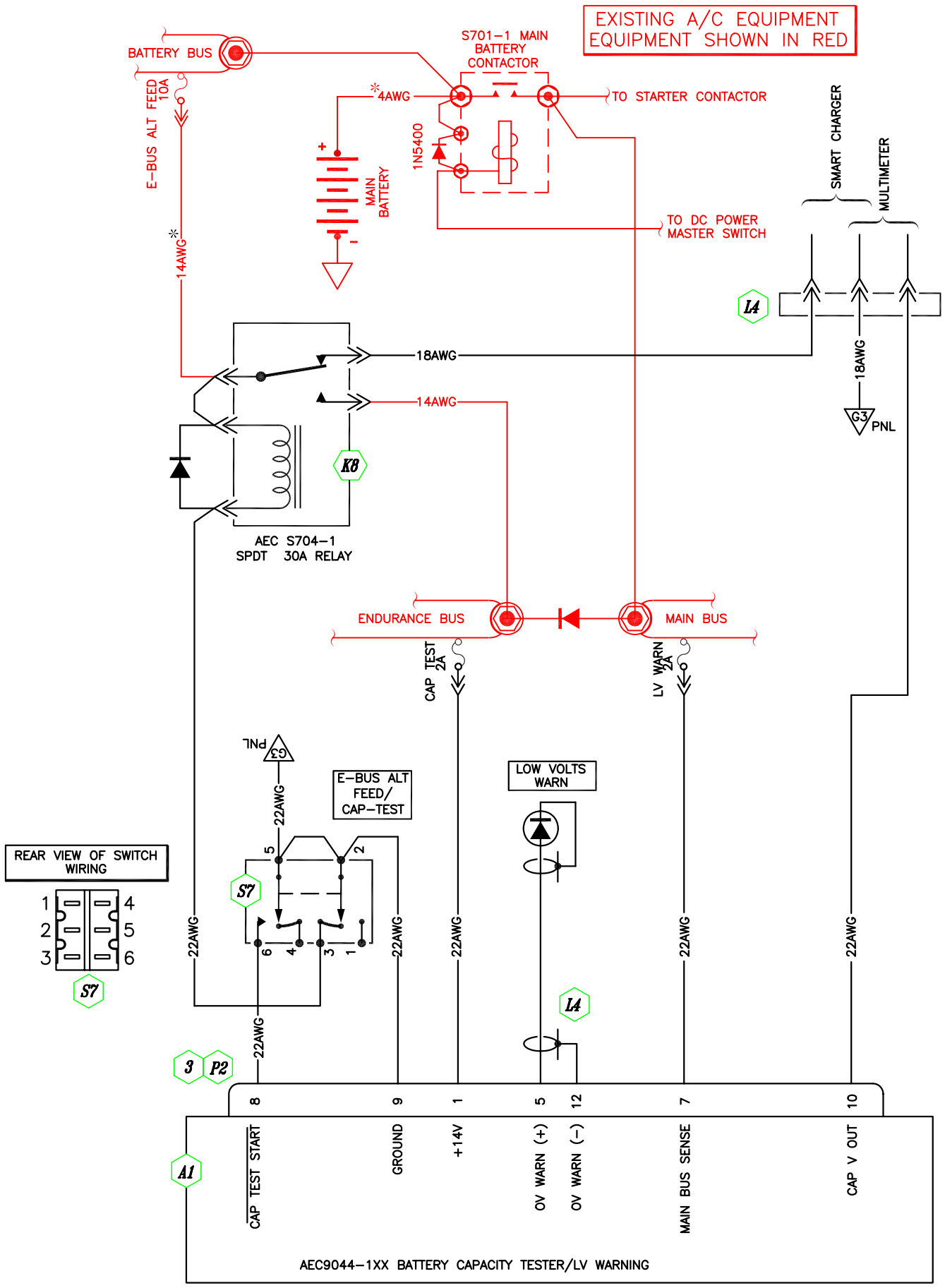
9044 COVER	1.0



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NOTES:

1. THIS PRODUCT CONTROLS THE ENDURACE BUS ALTERNATE FEED RELAY TO CONDUCT A SOFTWARE CONTROLLED CAPACITY TEST OF BATTERY ENDURANCE.

   TIME REQUIRED TO DISCHARGE THE BATTERY USING E-BUS LOADS IS STORED IN NON-VOLATILE MEMORY. WHEN THE TEST IS COMPLETED THE BATTERY IS AUTOMATICALLY CONNECTED TO A CHARGER FOR REPLENISHMENT.

2. SYSTEM OPERATION IS AS FOLLOWS:

   (A) ANY TIME THE AEC9044 IS POWERED FROM THE E-BUS AND THE MAIN BUS IS BETWEEN 6.0 AND 13.0 VOLTS, THE LOW VOLTS WARNING LIGHT WILL FLASH APPROXIMATELY 3 FLASHES PER SECOND.

   (B) ANY TIME THE AEC9044 IS POWERED FROM THE E-BUS AND THE MAIN BUS IS LESS THAN 6.0 VOLTS AND A CAP-TEST IS NOT IN PROGRESS, THE VOLTS LOW WARNING LIGHT WILL BE DARK.

   (C) A CAP-TEST IS INITIATED BY POWERING DOWN THE MAIN BUS AND MOMENTARILY PLACING THE E-BUS ALT FEED/CAP TEST SWITCH AT "TEST". WHEN THE LOW VOLTS WARNING LIGHT COMES ON STEADY, THE E-BUS ALT FEED/CAP TEST IS PLACED AT OFF.

> NOTE
> AFTER A CAP TEST IS INITATED, MAKE SURE THAT (1) E-BUS LOADS EXPECTED TO OPERATE DURING BATTERY-ONLY OPS ARE POWERED UP, (2) A SMART-CHARGER IS CONNECTED TO THE AIRCRAFT AND CONNECTED TO AC MAINS BEFORE THE AIRCRAFT IS SECURED.

   (D) AT THE COMPLETION OF A CAPACITY TEST, THE AEC9044 WILL DE-ENERGIZE E-BUS ALTERNATE FEED RELAY. THE E-BUS WILL POWER DOWN AND THE CHARGER WILL RETURN THE BATTERY TO A FLIGHT READY CONDITION.

   (E) ENDURANCE READING: AT ANY TIME BEFORE ANOTHER CAP-TEST IS INITIATED, AND THE E-BUS IS POWERED, A MULTIMETER CONNECTED TO THE "DATA-CHARGER" JACK WILL READ THE MEASURED CAPACITY OF THE BATTERY. THE SCALE FACTOR IS 1.0 VOLT = 1.0 HOUR UP TO A MAXIMUM OF 5.0 VOLTS. A READING OF ZERO VOLTS SAYS THE LAST TEST WAS INTERRUPTED OR THAT A TEST IS CURRENTLY IN PROGRESS.

3. OPERATING VOLTAGE: 8 TO 20 VOLTS DC (DO-160D LIMITS FOR CATEGORY Z IN 14V SYSTEMS.
4. OPERATING CURRENT: 0.01 AMPS MAX (NOT INCLUDING LAMP OR RELAY LOADS)
5. OPERATING TEMPERATURE: -40 TO +70 C
6. LOW VOLTAGE SETPOINT (DECREASING): 13.0 ± 0.2
7. LOW VOLTAGE SETPOINT (INCREASING): 13.5 ± 0.2
8. (NOT USED)
9. LAMP AND RELAY OUTPUTS: OPEN DRAIN PULL TO GROUND. 500 mA MAX FOR A CONDUCTING STATE, 40 VOLTS MAX FOR A NON-CONDUCTING STATE.
10. VIBRATION: NO PRACTICAL LIMITS - POTTED ASSEMBLY
11. HUMIDITY: NO PRACTICAL LIMITS - POTTED ASSEMBLY
12. ALTITUDE: NO PRACTICAL LIMITS
13. RF EMISSIONS: EXCEEDINGLY LOW POWERED MICROCONTROLLER WITH SMALL RADIATION GEOMETRY AND LOW PROBABILITY OF DIFFICULTY.
14. RF SUSCEPTIBILITY: VERY SMALL CAPTURE GEOMETRY. TESTED WITH CLOSE PROXIMITY VHF COMM HAND-HELD WITH NO OBSERVABLE EFFECTS.
15. DIMENSIONS: SEE ENVELOPE DRAWING
16. WEIGHT: 3 OZ.

QUANTITY		−1	REF DESIG	PART NUMBER	DESCRIPTION	MFGR/SUPPLIER
		1	9	9008−100−1	PLACARD SET, SELF ADHESIVE	AEC
		1	K8	S704−1	E−BUS ALT FEED RELAY (14V)	AEC
		1	S7	7205SYZQE	DPDT (ON)−OFF−(ON) SW	C&K
		1	L4	AEC9006−100−3	LED LAMP ASSY − AMBER	AEC
		1	3	9011−100−1	15P DSUB HOOD AND HDW	AEC
		1	P2	9011−100−1	15S DSUB − CRIMPED PINS	AEC
		1	A1	9044−100−1	LV WARN/CAP TEST MODULE (14V)	AEC
				AEC9044−1	LV/CAP TESTER INST KIT (14V)	AEC

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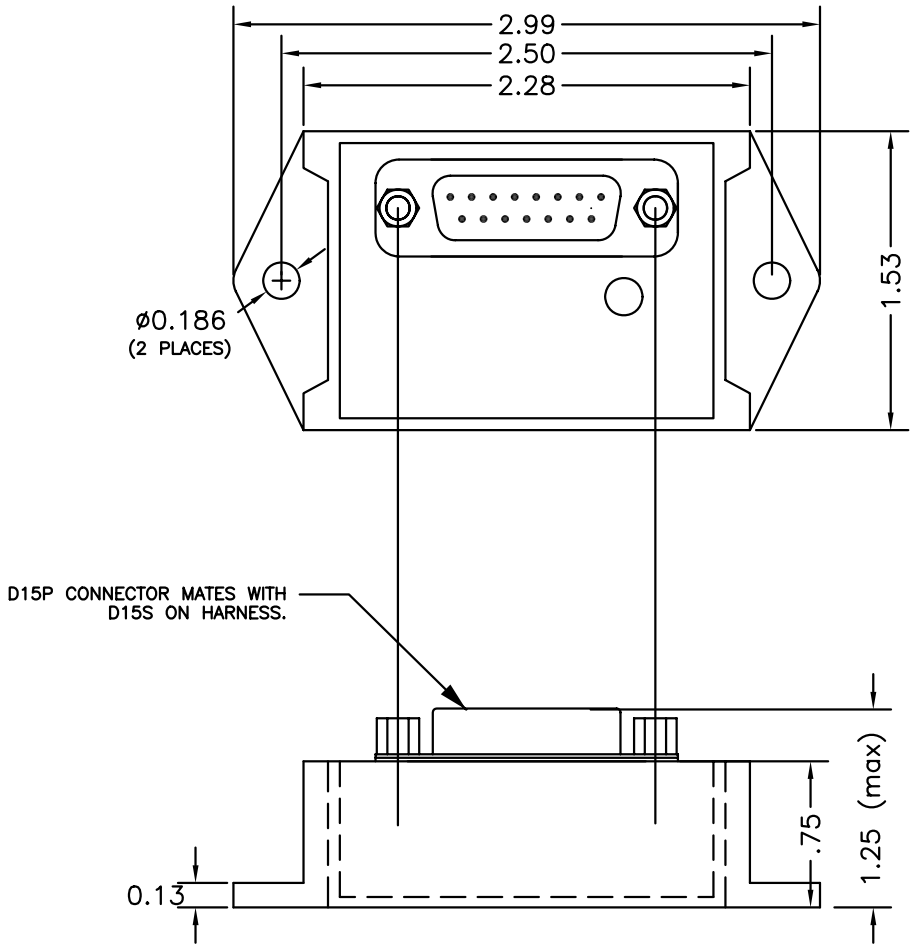

(-1) BAT CAP TEST / LV WARN MODULE

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