

GENERAL NOTES:

1. THE FOLLOWING NOTES ARE APPLICABLE TO THE AEC9024 SERIES DEVICES IRRESPECTIVE OF SELECTED FUNCTION.
2. OPERATING VOLTAGE: 8 TO 20 VOLTS DC (D0-I60D LIMITS FOR CATEGORY Z IN I4V SYSTEMS. I6 - 40 VOLTS DC (CATEGORY B IN 28V SYSTEMS)
3. OPERATING CURRENT: 0.0I AMPS MAX (NOT INCLUDING CONTACTOR LOADS)
4. OPERATING TEMPERATURE: -20 TO +70 C
5. MAXIMUM CONTACTOR COIL CURRENT: I.5A
6. SIGNAL OUTPUTS: OPEN DRAIN PULL TO GROUND.
7. VIBRATION: NO PRACTICAL LIMITS - QUASI-POTTED ASSEMBLY
8. HUMIDITY: NO PRACTICAL LIMITS - QUASI-POTTED ASSEMBLY
9. ALTITUDE: NO PRACTICAL LIMITS
10. RF EMISSIONS: EXCEEDINGLY LOW POWERED MICROCONTROLLER WITH VERY SMALL RADIATION GEOMETRY. PROBABILITY OF DIFFICULTY VERY LOW
11. RF SUSCEPTIBILITY: VERY SMALL CAPTURE GEOMETRY. TESTED WITH CLOSE PROXIMITY VHF COMM HAND-HELD WITH NO OBSERVABLE EFFECTS.
12. DIMENSIONS: SEE ENVELOPE DRAWING
13. WEIGHT: I OZ.

CONTACTOR POWER MANAGER (CPM) SEE FIGURE 2:

20. OPERATION:

- (A) WHEN THE CPM IS FIRST ENERGIZED, IT APPLIES FULL SYSTEM VOLTAGE TO THE CONTACTOR COIL UNTIL VOLTAGE RISES ABOVE II.0 VOLTS.
- (B) IO SECONDS AFTER APPLIED VOLTAGE RISES ABOVE II VOLTS, THE THE CONTROLLER SWITCHES TO A 50% DUTY CYCLE.
- (C) IF APPLIED VOLTAGE DROPS BELOW II.0 VOLTS, THE CONTROLER REVERTS TO 100% DUTY CYCLE.
- (D) ANY TIME APPLIED VOLTAGE IS GREATER THAN I3.0 VOLTS, THE CPM OPERATES AT 33% DUTY CYCLE.

23. DUTY CYCLE REDUCTION FOR STEADY STATE OPERATION (ALTERNATOR OPERATING) REDUCES CONTACTOR TEMPERATURE RISE BY APPROX 80%. DUTY CYCLE REDUCTION FOR STEADY STATE OPERATIONS (BATTERY ONLY) REDUCES CONTACTOR TEMPERATURE RISE BY APPROX 70%.

OVER VOLTAGE PROTECTION (OVP) SEE FIGURE 3:

30. OPERATION:

- (A) WHEN THE OVP IS ENERGIZED, IT APPLIES FULL SYSTEM VOLTAGE TO THE RELAY COIL UNTIL VOLTAGE RISES ABOVE I3.0 VOLTS.
- (B) IO SECONDS AFTER APPLIED VOLTAGE RISES ABOVE I3 VOLTS, THE THE OVP SWITCHES TO A 50% DUTY CYCLE.
- (C) IF APPLIED VOLTAGE EXCEEDS I6.0 VOLTS FOR IOO MS, THE OVP DROPS TO ZERO OUTPUT AND LATCHES IN THAT STATE UNTIL POWER IS REMOVED.

31. DUTY CYCLE REDUCTION FOR STEADY STATE OPERATION (ALTERNATOR OPERATING) REDUCES RELAY TEMPERATURE RISE BY APPROX 80%.

LOW VOLTAGE WARNING (LVW) SEE FIGURE 4:

40. OPERATION:

- (A) WHEN SYSTEM VOLTAGE IS GREATER THAN I3.0 VOLTS THE LVW OUTPUT IS OFF.
- (B) IF APPLIED VOLTAGE DROPS BELOW I3.0 VOLTS, THE LVW OUTPUT SWITCHES AT A 2.5 Hz RATE TO FLASH A LAMP OR LED IT 50% DUTY CYCLE.

AUXILIARY BATTERY MANAGEMENT (ABM) SEE FIGURE 5:

50. OPERATION:

- (A) WHEN THE SYSTEM VOLTAGE EXCEEDS I3.0 VOLTS, THE THE ABM APPLIES FULL SYSTEM VOLTAGE TO THE CONTACTOR COIL FOR IO SECONDS. AFTER IO SECONDS, CONTACTOR OUTPUT IS DUTY CYCLE SWITCHED AT 50%.
- (B) IF APPLIED VOLTAGE DROPS BELOW I3.0 VOLTS FOR IO SECONDS, THE ABM DROPS TO ZERO OUTPUT.

51. DUTY CYCLE REDUCTION FOR STEADY STATE OPERATION (ALTERNATOR OPERATING) REDUCES RELAY TEMPERATURE RISE BY APPROX 75%.

(PRELIMINARY DATA)

	I	I			9024-700-I	INSTALLATION INSTRUCTIONS	AEC
	I			AI	9024-II0-I	MULTI-FUNCTION MODULE (28V)	AEC
		I		AI	9024-I00-I	MULTI-FUNCTION MODULE (I4V)	AEC
					AEC9024-28	INSTALLATION KIT (28V)	AEC
					AEC9024-I4	INSTALLATION KIT (I4V)	AEC
	-2	-I		REF DESIG	PART NUMBER	DESCRIPTION	MFGR/SUPPLIER
QUANTITY						TITLE	PAGE
						INSTALLATION BOM	I.0