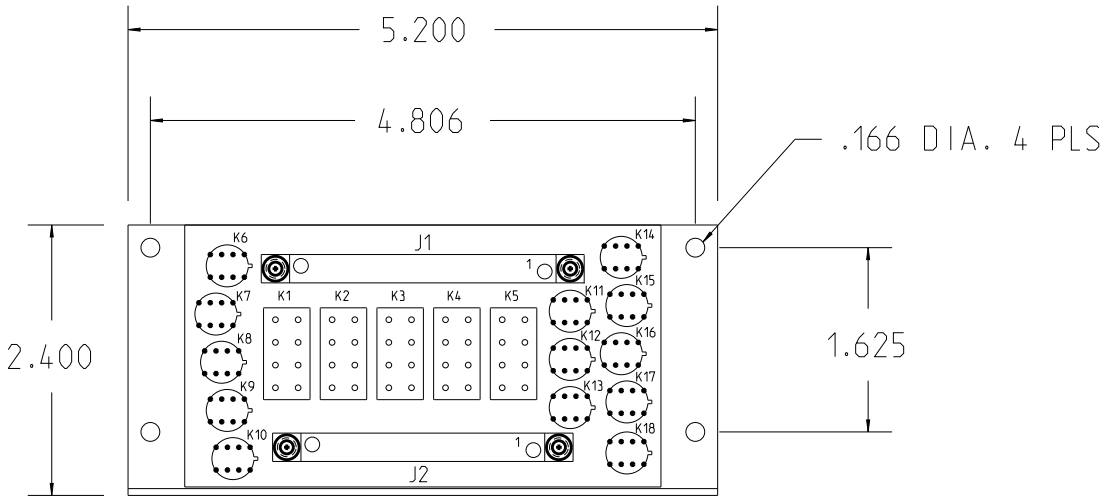


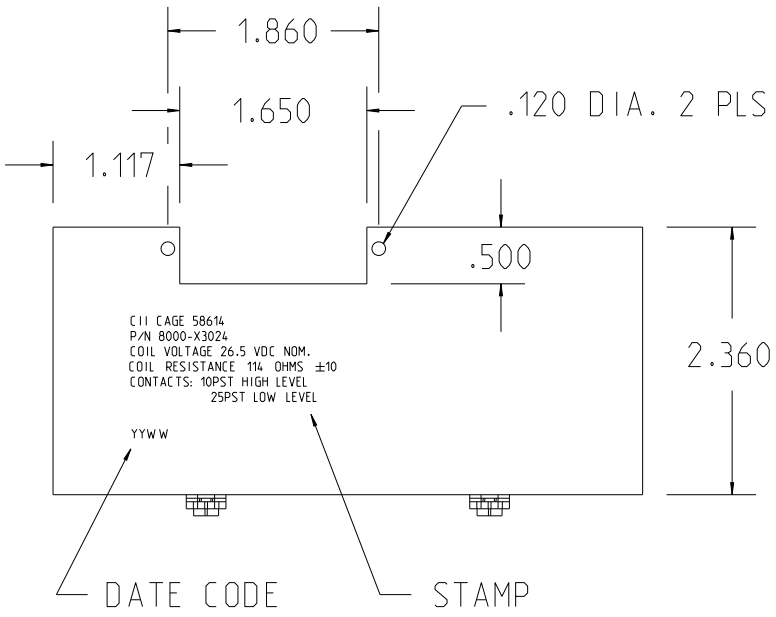


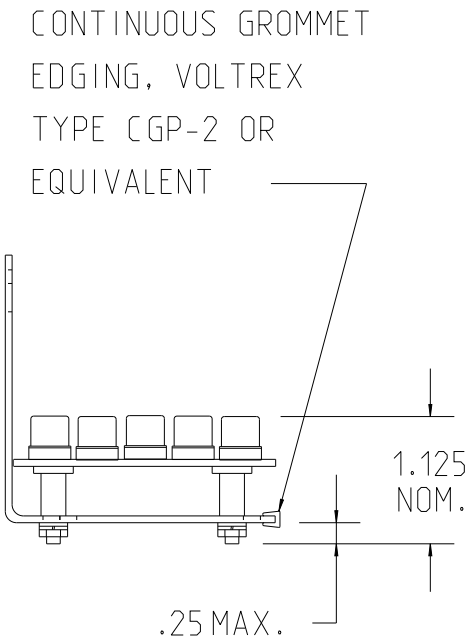


## OUTLINE DRAWING

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NOTES :

1. DIMENSIONS ARE IN INCHES.
2. TOLERANCES :

   DECIMAL .XXX = ±.005

   .XX = ±.010

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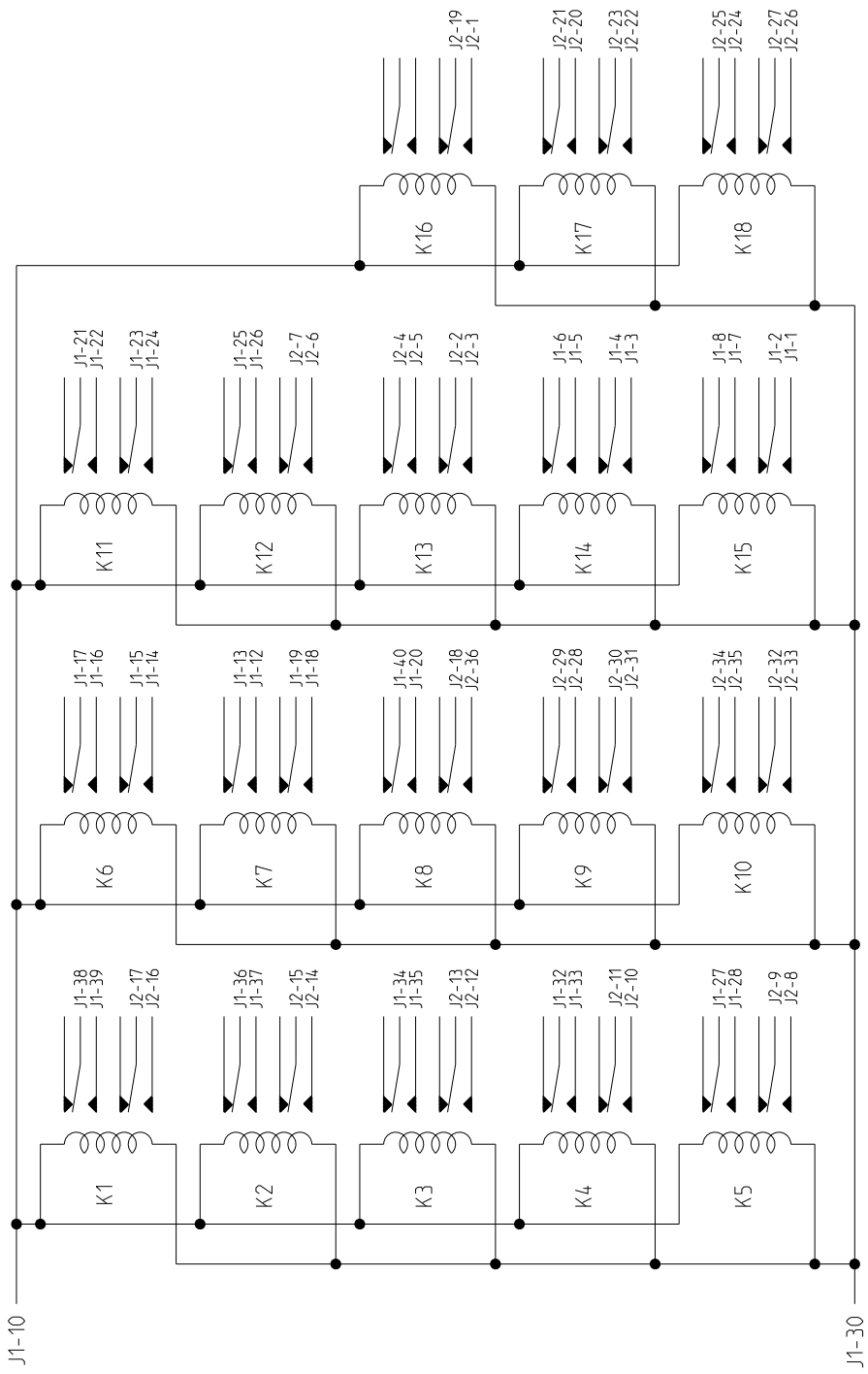


CIRCUIT DIAGRAM

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NOTES :

1. K1 THROUGH K5 ARE HIGH LEVEL CONTACTS
   MIL TYPE M39016/44-035L (CII HMS1201S111L)
2. K6 THROUGH K18 ARE LOW LEVEL CONTACTS
   MIL TYPE M39016/11-044L (CII JMSC-26XLS)
3. J1 IS AIRBORN P/N WTBV40PD9J-B82 (CII 141617-01)
4. J2 IS AIRBORN P/N WTBV36PD9J-B82 (CII 141617-02)

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1. DESCRIPTION : THIS DRAWING COVERS THE DETAIL REQUIREMENTS FOR A RELAY ASSEMBLY, CII P/N 8000-X3024. THE ASSEMBLY CONSISTS OF FIVE (5) HIGH LEVEL RELAYS, MILITARY P/N M39016/44-035L AND THIRTEEN (13) LOW LEVEL RELAYS, MILITARY P/N M39016/11-044, MOUNTED ON A PRINTED CIRCUIT BOARD, WHICH IN TURN IS ATTACHED TO A BRACKET FOR MOUNTING INTO THE VLS SWITCHING MODULE.

2. APPLICABLE DOCUMENTS :
LOCKHEED MARTIN LSEQK1 RELAY SPECIFICATION
MIL-R-39016
MIL-STD-202
MIL-STD-130
MIL-C-5541

3. REQUIREMENTS :

3.1 ELECTRICAL (-55°C TO +85°C UNLESS OTHERWISE SPECIFIED)

3.1.1 COIL VOLTAGE RANGE : 19 TO 29 VDC

3.1.2 MAXIMUM PICKUP VOLTAGE @ 25°C : 19.2 VDC

3.1.3 MAXIMUM PICKUP VOLTAGE @ 85°C : 22.2 VDC

3.1.4 MAXIMUM CONTINUOUS OVER-VOLTAGE : 28.8 VDC

3.1.5 MINIMUM DROPOUT VOLTAGE @ 25°C : 1.1 VDC

3.1.6 MINIMUM DROPOUT VOLTAGE @ -55°C : 0.7 VDC

3.1.7 COIL RESISTANCE @ 25°C : 114 ±10 OHMS

3.1.8 CONTACT RATINGS :

3.1.8.1 HIGH LEVEL CONTACTS, SWITCH & CARRY : 50mA TO 2A RESISTIVE @ 5-28 VDC

3.1.8.2 LOW LEVEL CONTACTS, SWITCH & CARRY : 10uA TO 1A RESISTIVE @ 5-50 VDC

3.1.9 CONTACT RESISTANCE :

3.1.9.1 HIGH LEVEL : .100 OHMS BEFORE LIFE, .200 OHMS AFTER LIFE

3.1.9.2 LOW LEVEL : .125 OHMS BEFORE LIFE, .175 OHMS AFTER LIFE

3.1.9.3 CAUTION : UNDER NO CIRCUMSTANCES SHALL LOW LEVEL CONTACTS BE TESTED WITH CONTACT LOADS IN EXCESS OF 100mA & 1.0 VDC OPEN CIRCUIT VOLTAGE. ALTHOUGH THE LOW LEVEL CONTACTS CAN WITHSTAND HIGHER LOADS WITHOUT STRUCTURAL DAMAGE, HIGH CURRENT CONDITIONING MAY CAUSE THE CONTACTS TO EXHIBIT IMPEDANCE LOSSES (HIGH CONTACT RESISTANCE) WHEN USED IN A LOWER CURRENT APPLICATION. THIS LIMITATION MAY BE MET WITH LOWER CURRENT AND HIGHER VOLTAGE PROVIDED THAT POWER (V x I) DOES NOT EXCEED 100mW.

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3.1.10 OPERATE & RELEASE TIME (INCLUDING BOUNCE WITH NO COIL SUPRESSION)

3.1.10.1 OPERATE TIME : 50mSEC MAX.

3.1.10.2 RELEASE TIME : 14mSEC MAX.

3.1.11 DIELECTRIC WITHSTANDING VOLTAGE : 350 VRMS

3.1.12 CAPACITANCE, ACROSS OPEN CONTACTS : 3 pF NOM.

3.2 ENVIRONMENTAL

3.2.1 TEMPERATURE : -55°C TO +85°C

3.2.2 TEMPERATURE SHOCK : -34°C TO +70°C IN 30 MINUTES

3.2.3 ALTITUDE, OPERATING : SEA LEVEL TO 8000 FT.

3.2.4 ALTITUDE, NON-OPERATING : SEA LEVEL TO 40,000 FT.

3.2.5 SHOCK, OPERATING : PER MIL-STD-202, METHOD 213, TEST CONDITION C, EXCEPT PEAK G VALUE SHALL BE 160 G's. CONTACT CHATTER SHALL NOT EXCEED 10 MICROSECONDS MAXIMUM FOR CLOSED CONTACTS AND 1 MICROSECOND MAXIMUM FOR OPEN CONTACTS (DE-ENERGIZED STATE).

3.2.6 VIBRATION, OPERATING

3.2.6.1 SINUSOIDAL : 20 G's MAX. OVER FREQUENCY RANGE OF 10 TO 2000 Hz. CONTACT CHATTER SHALL NOT EXCEED 10 MICROSECONDS MAX. FOR CLOSED CONTACTS WITH ALL CONTACTS CARYING 10 TO 50 mA AND 1 MICROSECONDS MAX FOR OPEN CONTACTS (DE-ENERGIZED STATE). NOTE : VIBRATION TEST CURVES PER MIL-STD-202, METHOD 204, FIGURE 204-1 APPLY.

3.2.6.2 RANDOM : 23.1 G's PER MIL-STD-202, METHOD 214, TEST CONDITION 1G, 3 MINUTES EACH PLANE. CONTACT CHATTER SHALL NOT EXCEED 10 MICROSECONDS MAX. FOR CLOSED CONTACTS WITH ALL CONTACTS CARRYING 10 TO 50 mA AND 1 MICROSECONDS MAX FOR OPEN CONTACTS (DE-ENERGIZED STATE). NOTE : VIBRATION TEST CURVES PER MIL-STD-202, METHOD 204, FIGURE 204-1 APPLY.

3.2.7 MOISTURE RESISTANCE : PER MIL-STD-202, METHOD 106

3.3 GROUP A ACCEPTANCE TESTS

3.3.1 MECHANICAL : VERIFY THAT THE EXTERNAL CONFIGURATION OF THE PART MEETS THE REQUIREMENTS OF THIS DRAWING FOR DIMENSIONS, FINISHES & MARKING

3.3.2 ELECTRICAL, @ 25 ±5°C

3.3.2.1 PICKUP VOLTAGE : SHALL NOT EXCEED LIMIT SPECIFIED IN PARA. 3.1.2

3.3.2.2 DROPOUT VOLTAGE : SHALL NOT EXCEED LIMIT SPECIFIED IN PARA. 3.1.5

3.3.2.3 CONTACT RESISTANCE : SHALL NOT EXCEED LIMIT SPECIFIED IN PARA. 3.1.9.1 & 3.1.9.2

3.4 WEIGHT : .75 POUNDS MAX.

3.5 MATERIALS :

3.5.1 PRINTED CIRCUIT BOARD : FR4 EPOXY, .062" THICK

3.5.2 MOUNTING BRACKET : ALUMINUM, 1/2 HARD, .062" THICK, COATED PER MIL-C-5541, CLASS A.

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