


REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE NPR 9210	25-04-19	PWK

## SALES DRAWING

REV. STATUS OF SHEETS						 <p>P.O. BOX 4422 Santa Barbara, CA 93140-4422</p>	
REV.	A	A	A	A	A		
SHEET	1	2	3	4	5		
REV.	A	A	A	A	A	<b>TITLE</b> GENERAL PURPOSE AEROSPACE 270VDC, 5A VACUUM RELAY	
SHEET	6	7	8	9	10		
PREP. BY	TANNER		94-4-1			<b>DWG. NO.</b>  AP5C SERIES	
CHKD. BY	W		94-4-19				
						<b>CAGE CODE</b>  18741	<b>SHEET</b> 1 <b>OF</b> 10
ENG. APRVL.			Kohlmeier 94-04-19				

REV.

A

## SPECIFICATIONS:

## PHYSICAL

CONTACT ARRANGEMENT	SPDT
FORM	C

## ENVIRONMENTAL

SHOCK, 11 MS 1/2 SINE (g, Peak)	50
VIBRATION, SINUSOIDAL (55-1500 Hz; g PEAK)	10
OPERATING TEMPRATURE (°C)	-55 TO +85
OPERATIONAL ALTITUDE, MAX. (FT.)	80,000

## ELECTRICAL

CONTACT RATING	
OPERATING VOLTAGE (Vdc)	270
RATED RESISTIVE LOAD @ 270 VDC (Amps)	5*
LOAD LIFE, MIN. (CYCLES)	10,000
OVERLOAD, SWITCHED (Adc)	10
CONTINUOUS CURRENT CARRY, MAX. (Adc)	SEE TABLE I

TABLE I	ADC
AP5C232, AP5C234, AP5C332, AP5C334, AP5C532, AP5C534	15
AP5C732, AP5C734, AP5C832, AP5C834, AP5C932, AP5C934	
AP5C235, AP5C335, AP5C535	5
AP5C245, AP5C345, AP5C545	10

## OTHER DATA

DIELECTRIC STRENGTH AT SEA LEVEL (VRMS)	
COIL TO CASE	500
ALL OTHER POINTS	2,000
DIELECTRIC STRENGTH AT 80,000 FT,	
ALL POINTS (VRMS)	500
OPERATE TIME, MAX., INCLUDING BOUNCE AT	
NOMINAL VOLTAGE (ms)	10
RELEASE TIME, MAX. (ms)	10
INSULATION RESISTANCE, 500 Vdc, MIN. (MEGOHMS)	
BEFORE LIFE	100
AFTER LIFE	50
CONTACT RESISTANCE, MAX. (OHMS)	SEE TABLE II

TABLE II	OHMS
AP5C232, AP5C234, AP5C332, AP5C334, AP5C532, AP5C534	.010
AP5C732, AP5C734, AP5C832, AP5C834, AP5C932, AP5C934	
AP5C235, AP5C245, AP5C335, AP5C345, AP5C535, AP5C545	.030

## COIL DATA

COIL VOLTAGE, NOMINAL (Vdc)	12	28	120
COIL VOLTAGE, MAX. (Vdc)	14	32	140
PICK-UP VOLTAGE, MAX. (Vdc)	10	24	100
DROP-OUT VOLTAGE, (Vdc)	.3-6	.7-12	5-55
COIL RESISTANCE (OHMS $\pm 10\%$ @ 25°C)	53	290	4700

## NOTES:

RATINGS LISTED ARE ACROSS THE OPERATING TEMPERATURE RANGE.

\* THE LOAD TERMINALS SHOULD ALWAYS BE CONNECTED AS FOLLOWS:

COMMON CONTACT +; OTHER CONTACTS -.

DIMENSIONS IN INCHES  
(DIMENSIONS IN PARENTHESES ARE IN  
MILLIMETERS)

TOLERANCES EXCEPT AS NOTED

.xx =  $\pm .03$ .xxx =  $\pm .010$  $\angle x^\circ = \pm 2^\circ$ 

DO NOT SCALE DWG.

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AP5C SERIES

CAGE CODE

18741

SCALE

NONE

SHEET

2

# PART NUMBER SELECTION

SAMPLE PART NUMBER: AP5C

3

3

4

## COIL OPTIONS

- 2 = 12 Vdc - BUS WIRE/PC BOARD (SEE FIGURES 1, 2, 5 & 6)
- 3 = 28 Vdc - BUS WIRE/PC BOARD (SEE FIGURES 1, 2, 5 & 6)
- 5 = 120 Vdc - BUS WIRE/PC BOARD (SEE FIGURES 1, 2, 5 & 6)
- 7 = 12 Vdc - TURRET TERMINAL (SEE FIGURES 3 & 4)
- 8 = 28 Vdc - TURRET TERMINAL (SEE FIGURES 3 & 4)
- 9 = 120 Vdc - TURRET TERMINAL (SEE FIGURES 3 & 4)

## POWER TERMINAL OPTIONS

- 3 = SOLDER CONNECTION/PC BOARD (SEE FIGURES 1-5)
- 4 = FLYING LEAD (SEE FIGURE 6)

## MOUNTING OPTIONS

- 2 = FLANGED MOUNT (SEE FIGURES 1 & 3)
- 4 = THROUGH CHASSIS MOUNT (SEE FIGURES 2 & 4)
- 5 = PC BOARD MOUNT (SEE FIGURES 5 & 6)

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SCALE

NONE

SHEET

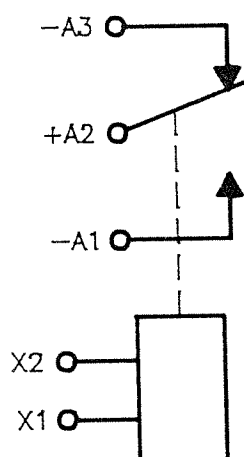
3

REV.

A

# SCHEMATIC

(FOR FIGURES 1-4 ONLY)



DIMENSIONS IN INCHES  
(DIMENSIONS IN PARENTHESES ARE IN  
MILLIMETERS)

TOLERANCES EXCEPT AS NOTED

.xx =  $\pm .03$

.xxx =  $\pm .010$

$\angle$  x° =  $\pm 2^\circ$

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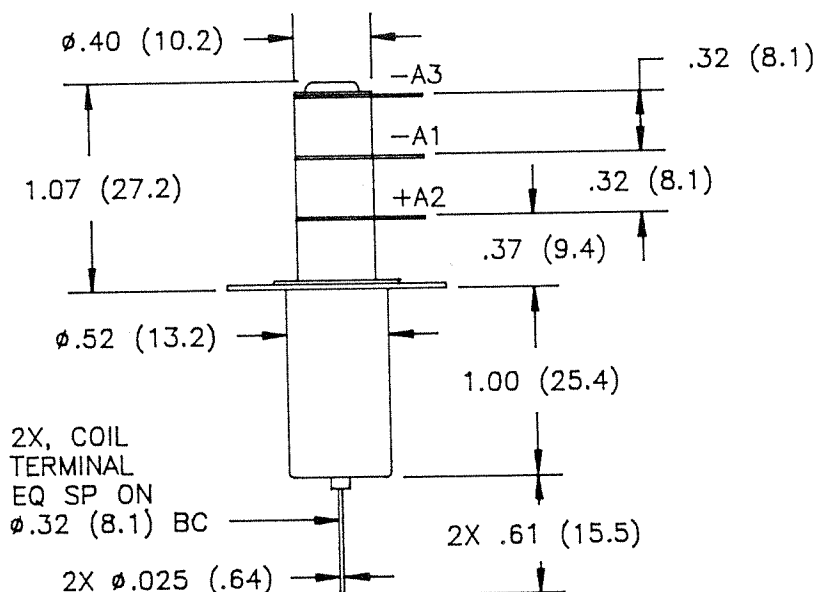
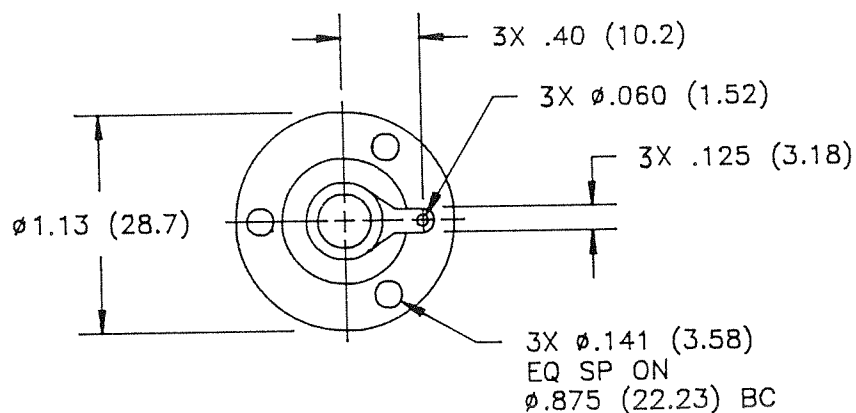
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18741

SCALE  
NONE

SHEET  
4

REV.

A



WEIGHT, MAX (oz): 1.00

## AVAILABLE OPTIONS:

COIL OPTIONS	POWER TERMINAL OPTIONS	MOUNTING OPTIONS
2 = 12 Vdc - BUS WIRE LEADS	3 = SOLDER CONNECTIONS	2 = FLANGED MOUNT
3 = 28 Vdc - BUS WIRE LEADS		
5 = 120 Vdc - BUS WIRE LEADS		

(PART NUMBER, CONTACT RATINGS, COIL VOLTAGE/RESISTANCE AND SCHEMATIC ARE MARKED ON SIDES OF RELAY.)

FIGURE 1: FLANGED STYLE MOUNTING WITH SOLDER TYPE POWER TERMINALS AND BUS WIRE COIL LEADS

DIMENSIONS IN INCHES  
(DIMENSIONS IN PARENTHESES ARE IN  
MILLIMETERS)

TOLERANCES EXCEPT AS NOTED

.xx =  $\pm$  .03.xxx =  $\pm$  .010 $\angle$  x° =  $\pm$  2°

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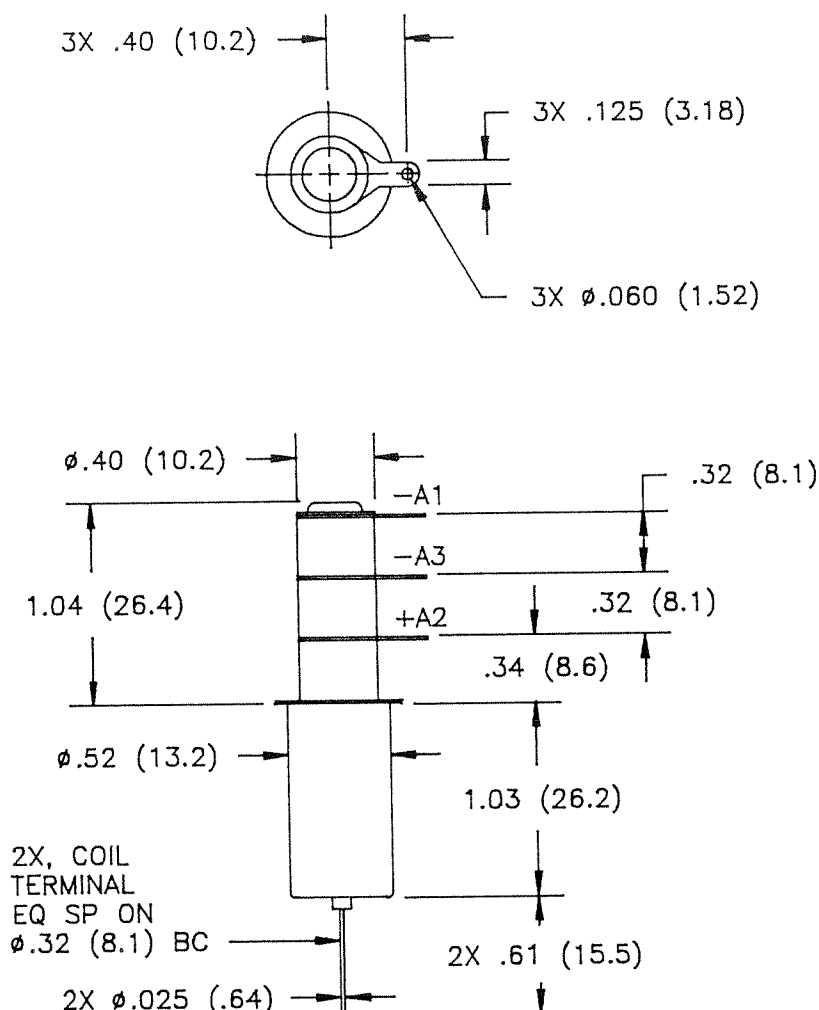
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18741

SCALE  
1:1

SHEET  
5

REV.  
A



WEIGHT, MAX (oz): 1.00

AVAILABLE OPTIONS:

COIL OPTIONS	POWER TERMINAL OPTIONS	MOUNTING OPTIONS
2 = 12 Vdc - BUS WIRE LEADS 3 = 28 Vdc - BUS WIRE LEADS 5 = 120 Vdc - BUS WIRE LEADS	3 = SOLDER CONNECTIONS	4 = THROUGH CHASSIS MOUNT

(PART NUMBER, CONTACT RATINGS, COIL VOLTAGE/RESISTANCE AND SCHEMATIC ARE MARKED ON SIDES OF RELAY.)

FIGURE 2: THROUGH CHASSIS STYLE MOUNTING WITH SOLDER TYPE POWER TERMINALS AND BUS WIRE COIL LEADS

DIMENSIONS IN INCHES  
(DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS)

TOLERANCES EXCEPT AS NOTED

.xx =  $\pm$  .03

.xxx =  $\pm$  .010

$\angle$  x° =  $\pm$  2°

DO NOT SCALE DWG.

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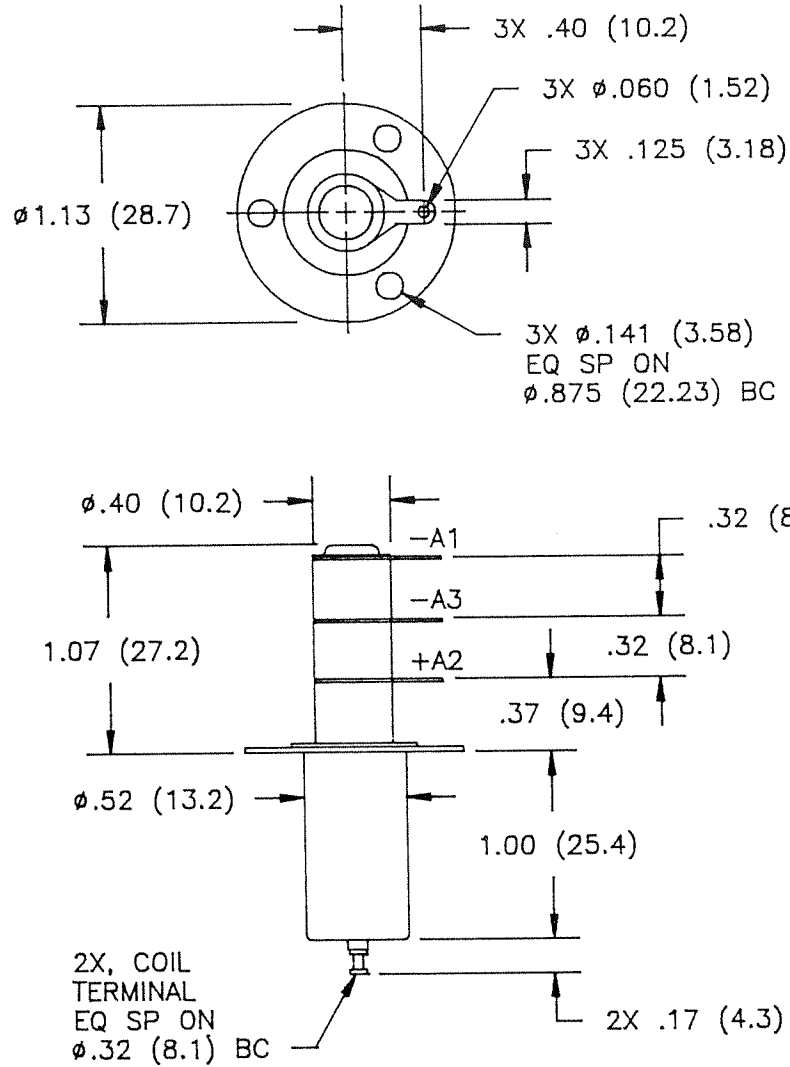
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18741

SCALE  
1:1

SHEET  
6

REV.  
A



WEIGHT, MAX (oz): 1.00

AVAILABLE OPTIONS:

COIL OPTIONS	POWER TERMINAL OPTIONS	MOUNTING OPTIONS
7 = 12 Vdc - TURRET TERMINALS	3 = SOLDER CONNECTIONS	2 = FLANGED MOUNT
8 = 28 Vdc - TURRET TERMINALS		
9 = 120 Vdc - TURRET TERMINALS		

(PART NUMBER, CONTACT RATINGS, COIL VOLTAGE/RESISTANCE AND SCHEMATIC ARE MARKED ON SIDES OF RELAY.)

FIGURE 3: FLANGED STYLE MOUNTING WITH SOLDER TYPE POWER TERMINALS AND TURRET COIL TERMINALS

DIMENSIONS IN INCHES  
(DIMENSIONS IN PARENTHESES ARE IN  
MILLIMETERS)

TOLERANCES EXCEPT AS NOTED

.xx =  $\pm$  .03

.xxx =  $\pm$  .010

$\angle$  x° =  $\pm$  2°

DO NOT SCALE DWG.

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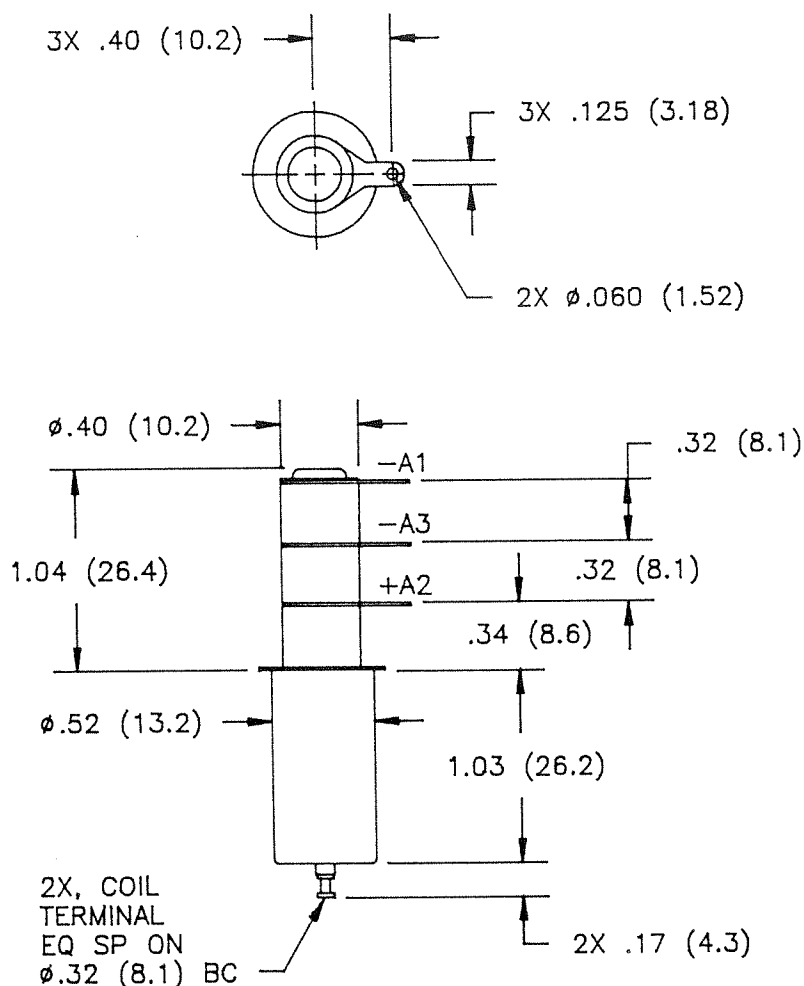
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18741

SCALE  
1:1

SHEET  
7



WEIGHT, MAX (oz): 1.00

AVAILABLE OPTIONS:

COIL OPTIONS	POWER TERMINAL OPTIONS	MOUNTING OPTIONS
7 = 12 Vdc - TURRET TERMINALS 8 = 28 Vdc - TURRET TERMINALS 9 = 120 Vdc - TURRET TERMINALS	3 = SOLDER CONNECTIONS	4 = THROUGH CHASSIS MOUNT

(PART NUMBER, CONTACT RATINGS, COIL VOLTAGE/RESISTANCE AND SCHEMATIC ARE MARKED ON SIDES OF RELAY.)

FIGURE 4: THROUGH CHASSIS STYLE MOUNTING WITH SOLDER TYPE POWER TERMINALS AND TURRET COIL TERMINALS

DIMENSIONS IN INCHES  
(DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS)

TOLERANCES EXCEPT AS NOTED

.xx =  $\pm .03$

.xxx =  $\pm .010$

$\angle$  x° =  $\pm 2^\circ$

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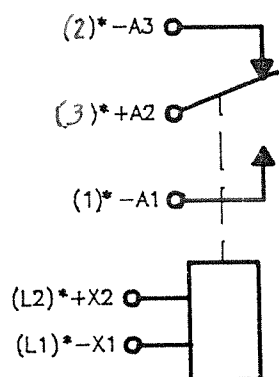
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SCALE  
1:1

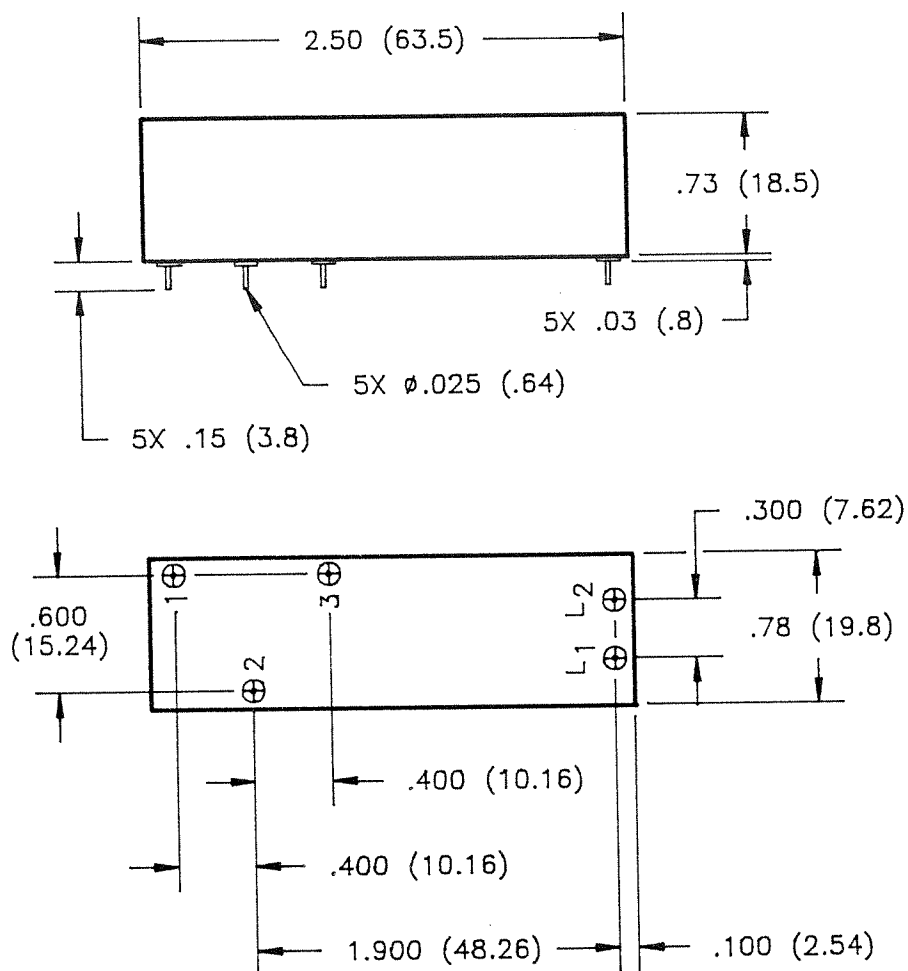
SHEET  
8

REV.  
A

# SCHEMATIC



\*HARDWARE MARKING  
WILL BE AS SHOWN  
IN PARENTHESES.



WEIGHT, MAX (oz): 2.00

AVAILABLE OPTIONS:

COIL OPTIONS	POWER TERMINAL OPTIONS	MOUNTING OPTIONS
2 = 12 Vdc - PCB TERMINALS 3 = 28 Vdc - PCB TERMINALS 5 = 120 Vdc - PCB TERMINALS	3 = PCB TERMINALS	5 = PCB MOUNT

(PART NUMBER, CONTACT RATINGS, COIL VOLTAGE/RESISTANCE AND SCHEMATIC ARE MARKED ON SIDES OF RELAY.)

FIGURE 5: PC BOARD STYLE MOUNTING WITH PC BOARD TERMINALS

DIMENSIONS IN INCHES  
(DIMENSIONS IN PARENTHESES ARE IN  
MILLIMETERS)

TOLERANCES EXCEPT AS NOTED

.xx =  $\pm .03$

.xxx =  $\pm .010$

$\angle$  x° =  $\pm 2^\circ$

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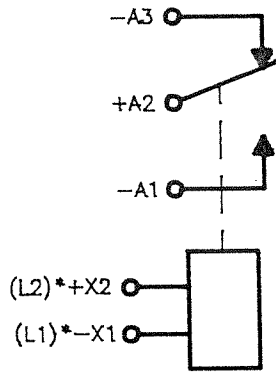
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SCALE  
1:1

SHEET  
9

REV.  
A

# SCHEMATIC



\*HARDWARE MARKING WILL BE AS SHOWN IN PARENTHESES.

## NOTES:

1. TERMINALS 1 AND 2 ARE FOR MOUNTING ONLY, THEY ARE NOT ELECTRICALLY CONNECTED. TERMINAL 3 IS NOT USED.

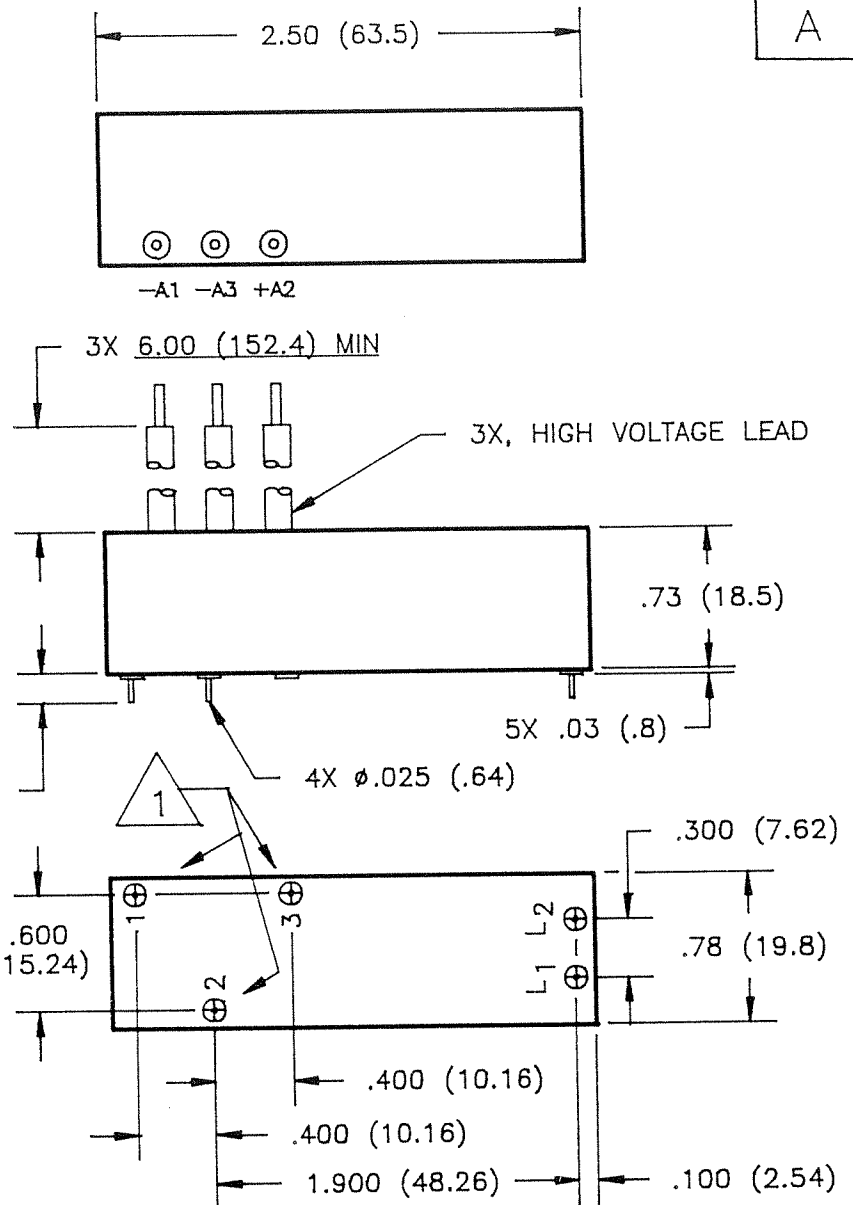
WEIGHT, MAX (oz): 2.00

## AVAILABLE OPTIONS:

COIL OPTIONS	POWER TERMINAL OPTIONS	MOUNTING OPTIONS
2 = 12 Vdc - PCB TERMINALS	4 = FLYING LEADS	5 = PCB MOUNT
3 = 28 Vdc - PCB TERMINALS		
5 = 120 Vdc - PCB TERMINALS		

(PART NUMBER, CONTACT RATINGS, COIL VOLTAGE/RESISTANCE AND SCHEMATIC ARE MARKED ON SIDES OF RELAY.)

FIGURE 6: PC BOARD STYLE MOUNTING FLYING POWER LEADS



DIMENSIONS IN INCHES  
(DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS)

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.xxx =  $\pm .010$

$\angle$  x° =  $\pm 2^\circ$

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SCALE  
1:1

SHEET  
10