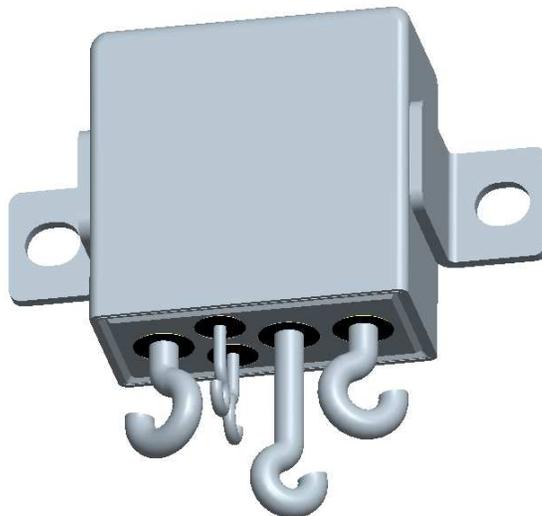
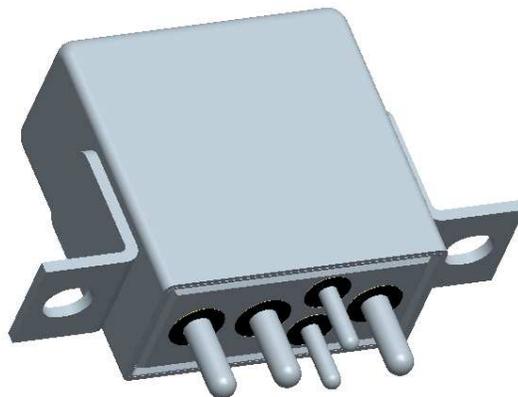


**SERIES FCAV-125**  
**RELAY-NONLATCH**  
 10 Ampere/ 230VAC-400 Hz, SPDT\*

\*Contacts rated at 230 VAC for higher voltage systems on more electric aircraft.

**PRODUCT FACTS:**

- Non latching Hermetically Sealed Relay.
- Balanced force design.
- Permanent magnet drive. Polarized single side stable design.
- All welded construction.
- Coils available:  
 DC: 6, 12, 28, 48 VDC.  
 AC: 28,115 VAC (50/400 Hz).
- Contacts: Silver Cadmium oxide with Gold plating.
- Designed and built in accordance to MIL- PRF-83536.
- Weight 45.4 grams (1.6 ounces) Max.



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**SERIES FCAV-125**



Dimensions shown for reference  
 Only. Specifications subject to change.

CAGE CODE

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NONE

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<b>GENERAL CHARACTERISTICS</b>	
Temperature range	-70° C to +125° C
Altitude	300,000 feet
Dielectric strength at sea level	
- All circuits to ground and circuit to circuit.	1250 Vrms
- Coil to ground	1000 Vrms
Dielectric strength at altitude 80,000 ft (all points)	350 Vrms
Initial Insulation resistance at 500 Vdc	100 MΩ min
Insulation resistance after life or environmental test	50 MΩ min.
Sinusoidal vibration:* Z, Y & X Enclosures	30g/ 33-3000 Hz
W Enclosures(STUD MTG)	20g/ 33 – 3000 Hz
Random vibration:* Z, Y & X Enclosures	0.4g <sup>2</sup> / Hz 50-2000 Hz
W Enclosures (STUD MTG)	0.2g <sup>2</sup> / Hz 50-2000 Hz
Shock:* Z, Y & X Enclosures	200g for 6 ms
W Enclosures (STUD MTG)	100g for 6 ms
Operate time at nominal voltage :DC Relays	10ms max.
: AC relays	15 ms max.
Release time at nominal voltage :DC Relays	10 ms max.
:AC Relays	50 ms max.

\*Max. Contact opening under vibration or shock 10 microseconds.

#### COIL DATA

Coil Code	Nominal Voltages	Freq. HZ	Over Temperature Range			
			DC Res. AC AMPS(B)	Pick up or Below Volts	Dropout or above Volts	Must Hold voltage(C)
1	6	DC	20 Ohms	4.5	0.3	2.5
2	12	DC	80 Ohms	9.0	0.75	4.5
3	28	DC	320 Ohms	18.0	1.5	7.0
4(A)	28	DC	320 Ohms	18.0	1.5	7.0
5	48	DC	920 Ohms	32.0	2.5	14.0
6	28 VAC	400 Hz	180 mA	22.0	1.25	10.0
7	28 VAC	50/400 Hz	100 mA	22.0	1.25	10.0
8	115 VAC	400 Hz	40 mA	90.0	5.0	40.0
9	115 VAC	50/400 Hz	30 mA	95.0	5.0	40.0



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- A. Code 4 coils have back EMF suppression to 42 Volts max.
- B. DC Coil Resistance  $\pm 10\%$  at 25°C.
- C. Relay will stay in picked-up state down to Must Hold Voltages shown.
- D. Max Overvoltage: 6 & 12 VDC Coils 120% of Nominal; All others 110% of nominal.
- E. Coils available for other voltages and for AC 50/60 Hz.

**CONTACT ELECTRICAL CHARACTERISTICS**

Type of Load	Life(Min.) Cycles X10 <sup>3</sup>	28 VDC	115VAC 400 Hz	230 VAC 400 Hz	115 VAC
					60 Hz*
Resistive	50	25	25	10	10
Inductive	10	12	-	-	10
Motor	50	10	10	-	8
Lamp	50	5	5	-	-

\* 60 Hz Loads rated for 10000 operations

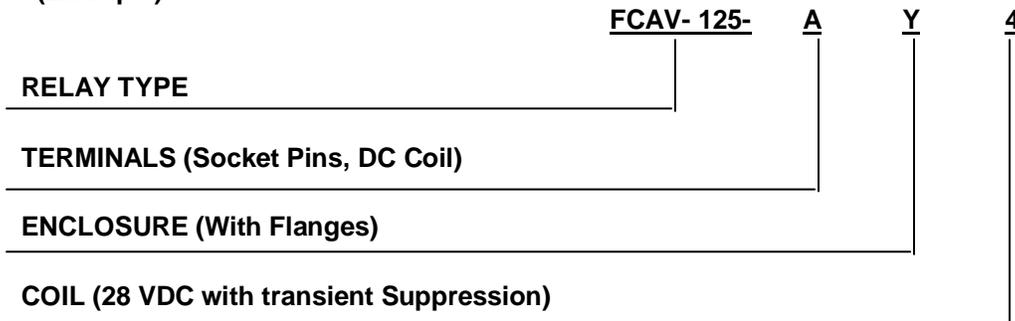
- A. Overload Current 50 Amps DC, 80 Amps 400 Hz.
- B. Rupture Current 60 Amps DC, 100 Amps 400 Hz.
- C. Contact Make Bounce 1 Millisecond at Nominal Voltage.
- D. Max. Contact drop at 25 Amps: initial 0.150 Volts.
- E. End of Life 0.175 Volts.

All endurance ratings are subject to validation - consult factory

**PART NUMBERING SYSTEM**

How to order-:

(Example)



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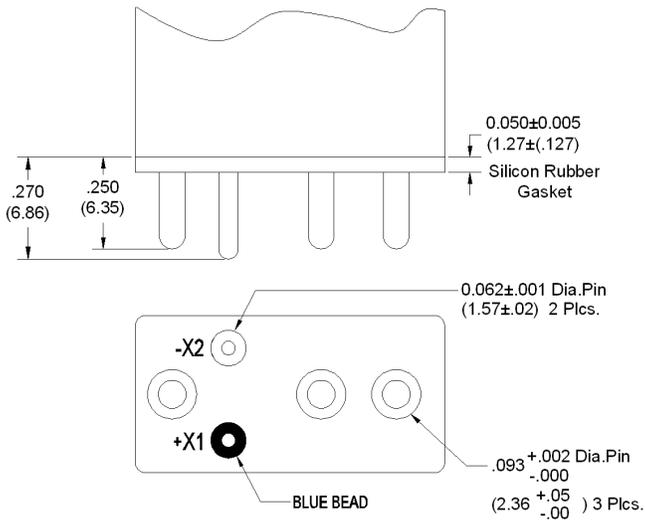
SHEET

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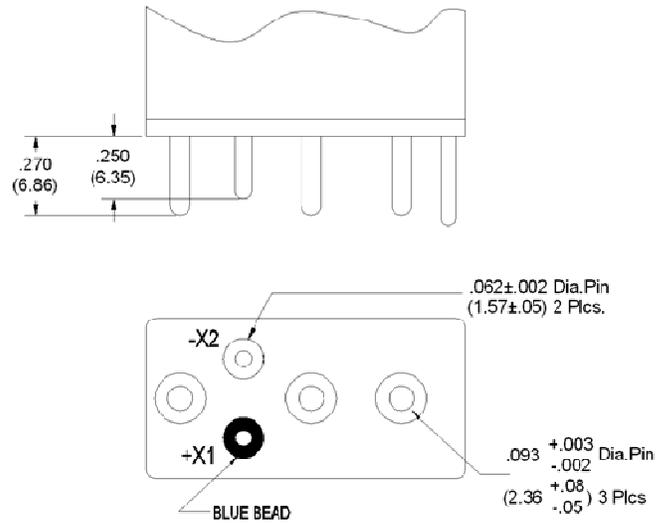


# TERMINALS

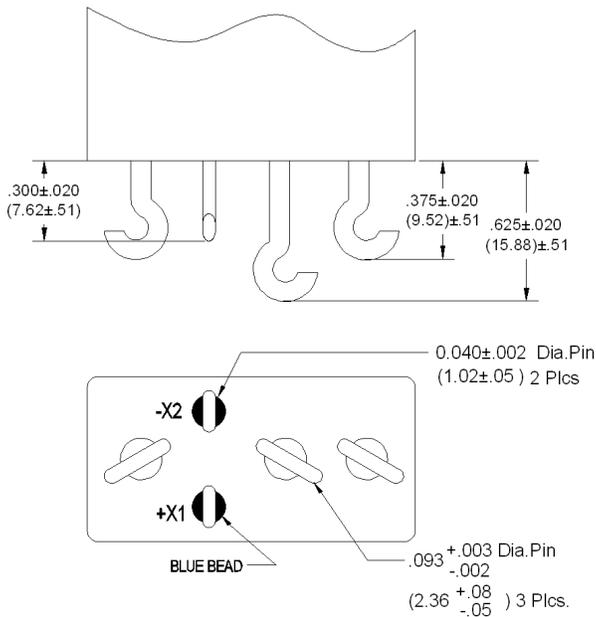
**CODE "A"**  
**Socket pins- All DC Coils**  
**Pin Terminals are Gold plated**



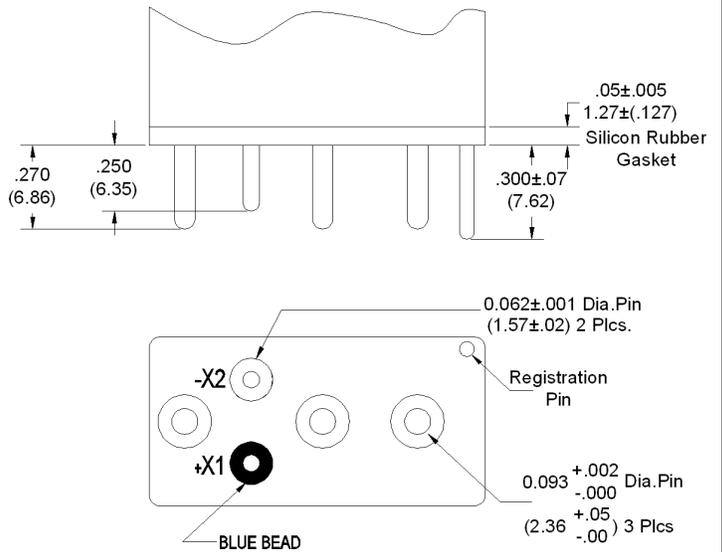
**CODE "B"**  
**Solder Pin Terminals**  
**PIN TERMINALS TIN/LEAD PLATED**



**CODE "C"**  
**Solder Hook Terminals**  
**Hook Terminals Tin/Lead plated**



**CODE "D"**  
**Socket pins- All AC Coils**  
**Pin Terminals are Gold plated**



\*Dimensions are shown in inches ± 0.010 and (Millimeters ± 0.25)



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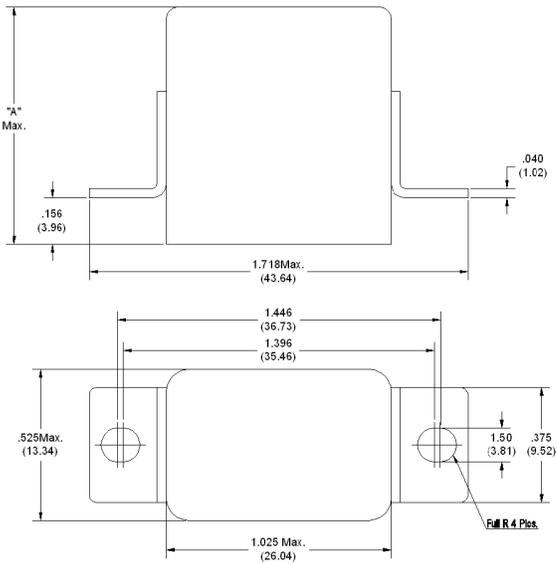
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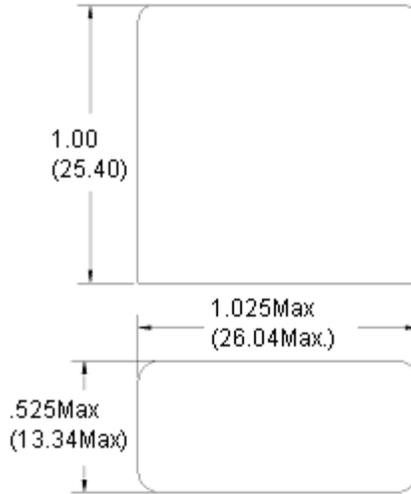
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# ENCLOSURES

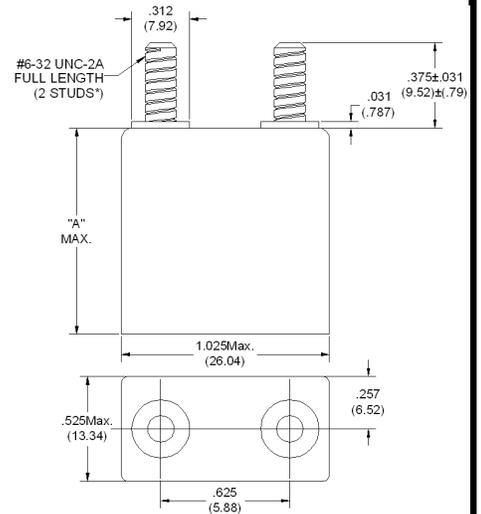
## CODE "Y"



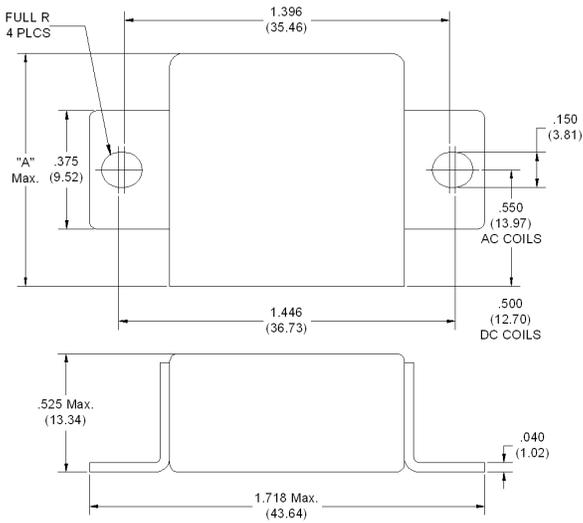
## CODE "Z"



## CODE "W"

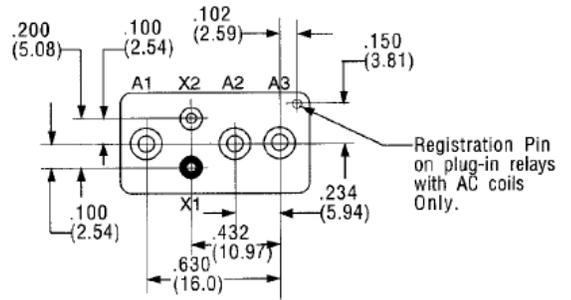


## CODE "X"



**"A"-AC Coils 1.125 in. (25.57) Max.**  
**-DC Coils 1.010 in. (25.65) Max..**

## TERMINAL LAYOUT



Note: All Enclosures have Cupro-Nickel Cans bright acid tin/lead plated after Assembly to terminal headers. Dimensions: inches ± .010 (mm ± .25).

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## SERIES FCAV-125



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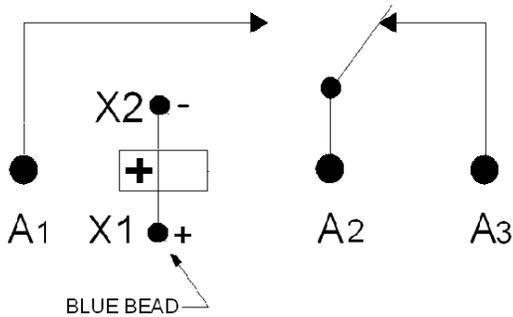
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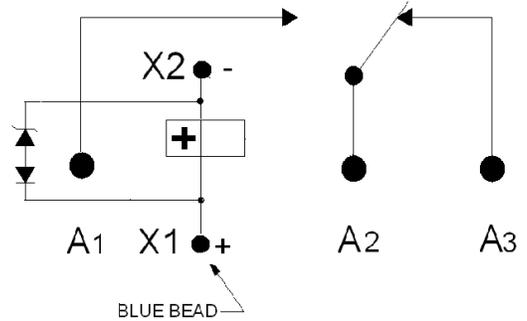
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## TERMINAL WIRING DIAGRAM

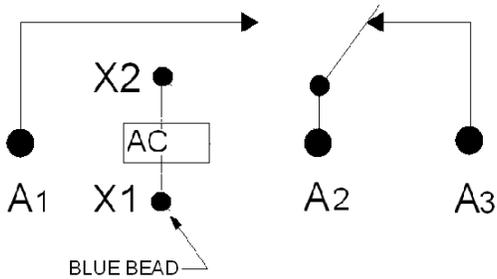
### DC COILS



### DC COILS WITH TRANSIENT SUPPRESSION



### AC COILS



#### NOTE:

1. POLARITY MUST BE OBSERVED WITH DC COIL SUPPLY. THESE RELAYS ARE POLARIZED AND WILL NOT OPERATE OR BE DAMAGED BY REVERSE POLARITY.
2. DIODES USED IN TRANSIENT SUPPRESSION AND IN AC RECTIFIER CIRCUITS HAVE PEAK INVERSE VOLTAGE RATING OF 600 VDC MIN. ZENER DIODES HAVE MIN. RATING OF 1 WATT.
3. TERMINAL DESIGNATIONS ARE FOR REFERENCE ONLY & DO NOT



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