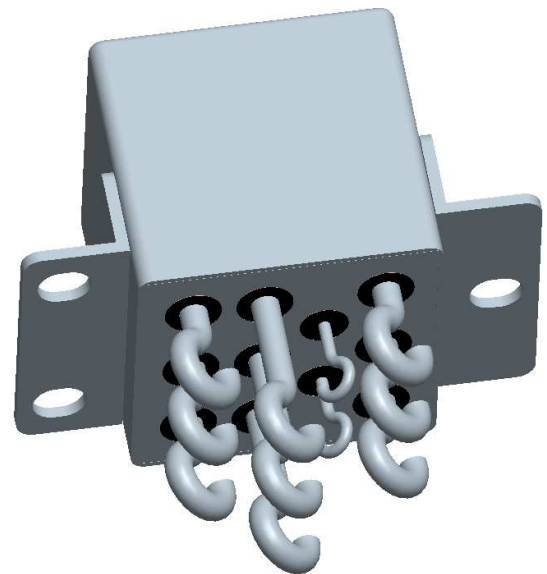
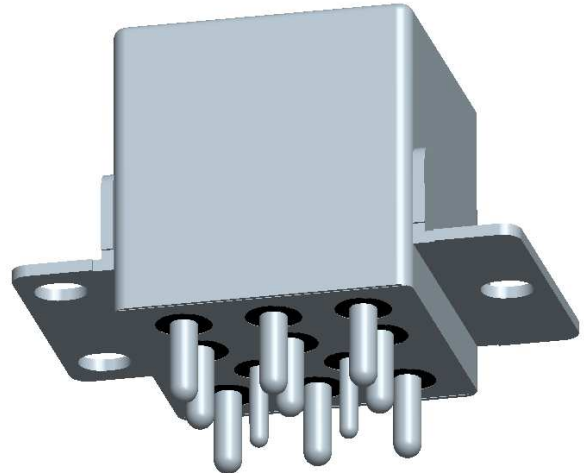


**SERIES FCAV-325**  
**RELAY-NONLATCH**  
 10 Ampere/ 230VAC-400 Hz, 3PDT\*

\*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 82 grams (2.89 ounces) Max.



**PRODUCTION DATA SHEET**

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 1396 CHARLOTTE HIGHWAY, FAIRVIEW, NC 28730

**SERIES FCAV-325**



Dimensions shown for reference  
 Only. Specifications subject to change.

CAGE CODE

SCALE

NONE

SHEET

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| GENERAL CHARACTERISTICS                                |                                   |
|--|-----------------------------------|
| 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             | 15 ms max.                        |
| : AC relays  | 20 ms max.                        |
| Release time at nominal voltage :DC Relays             | 15 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        | 18 Ohms                | 4.5                    | 0.3                    | 2.5                  |
| 2         | 12               | DC        | 70 Ohms                | 9.0                    | 0.75                   | 4.5                  |
| 3         | 28               | DC        | 290 Ohms               | 18.0                   | 1.5                    | 7.0                  |
| 4(A)      | 28               | DC        | 290 Ohms               | 18.0                   | 1.5                    | 7.0                  |
| 5         | 48               | DC        | 865 Ohms               | 32.0                   | 2.5                    | 14.0                 |
| 6         | 28 VAC           | 400 Hz    | 225 mA                 | 22.0                   | 1.25                   | 10.0                 |
| 7         | 28 VAC           | 50/400 Hz | 120 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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NONE

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- A. Code 4 coils have back EMF suppression to 42 Volt 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.)<br>Cycles X10 <sup>3</sup> | 28VDC | 115VAC<br>400 Hz | 230VAC<br>400Hz | 115/200 VAC 3 $\phi$ |       |
|--------------|---------------------------------------|-------|------------------|-----------------|----------------------|-------|
|              |                                       |       |                  |                 | 400Hz                | 60Hz* |
| Resistive    | 50                                    | 25    | 25               | 10              | 25                   | 2.5   |
| Inductive    | 10                                    | 12    | -                | -               | -                    | 2.5   |
| Motor        | 50                                    | 10    | 10               | -               | 10                   | 2     |
| Lamp         | 50                                    | 5     | 5                | -               | 5                    | 1     |

\* 60 Hz Loads rated for 10000 operations

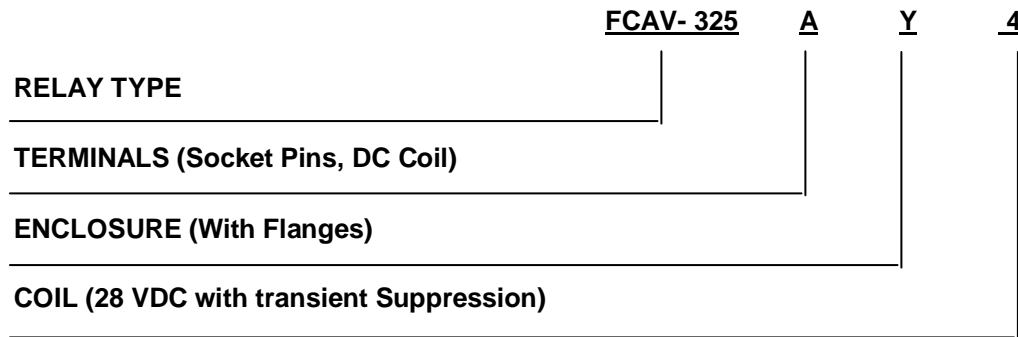
- A. Overload Current 50 Amps DC, 80 Amps 400 Hz.
- B. Rupture Current 60 Amps DC, 100 Amps 400 Hz.
- C. Contact Make Bounce 1 Millisecond at Nominal Voltage.
- D. Max. Contact drop at 25 Amps: initial 0.150 Volts.
- E. End of Life 0.175 Volts.

All endurance ratings are subject to validation - consult factory

**PART NUMBERING SYSTEM**

How to order-:

(Example)



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CAGE CODE

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NONE

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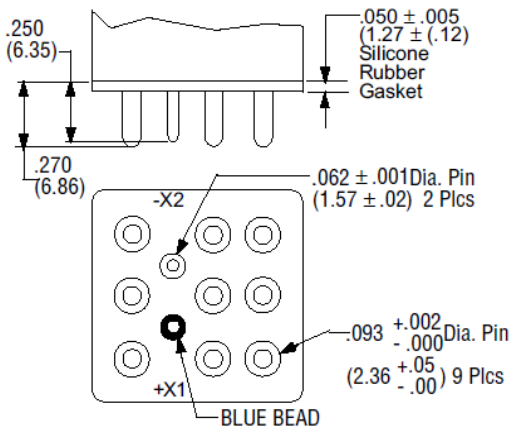


# TERMINALS

## CODE "A"

### Socket Pins - All DC Coils

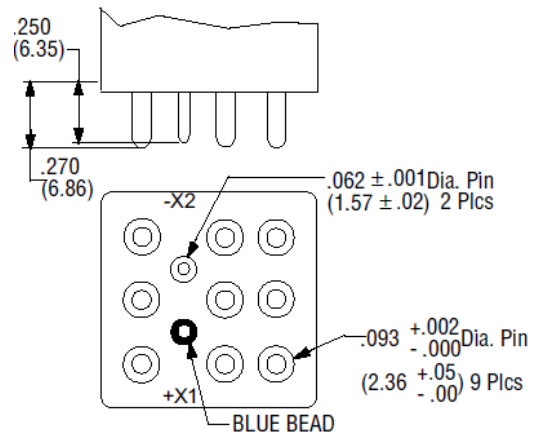
PIN TERMINALS ARE GOLD PLATED



## CODE "B"

### Solder Pin Terminals

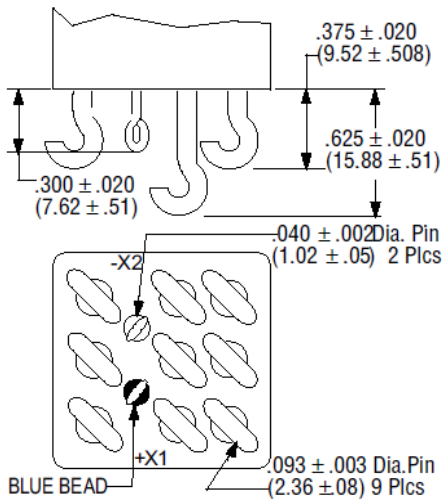
PIN TERMINALS TIN/LEAD PLATED



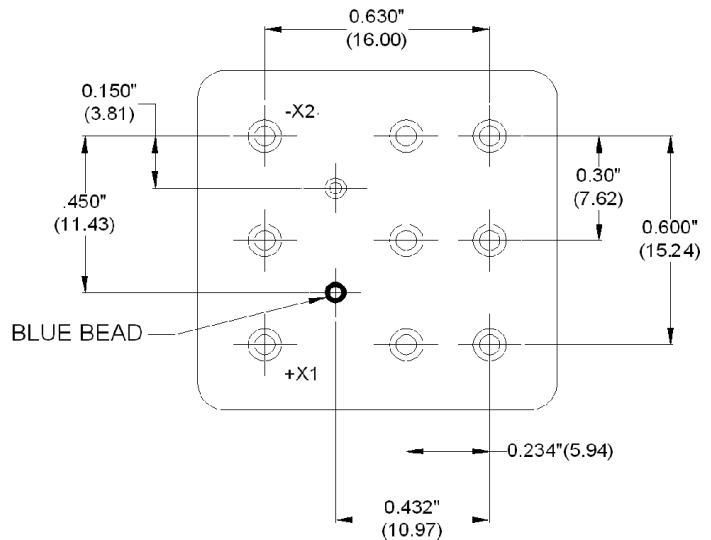
## CODE "C"

### Solder Hook Terminals

HOOK TERMINALS TIN/LEAD PLATED



## TERMINAL LAYOUT



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



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## SERIES FCAV-325

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CAGE CODE

SCALE

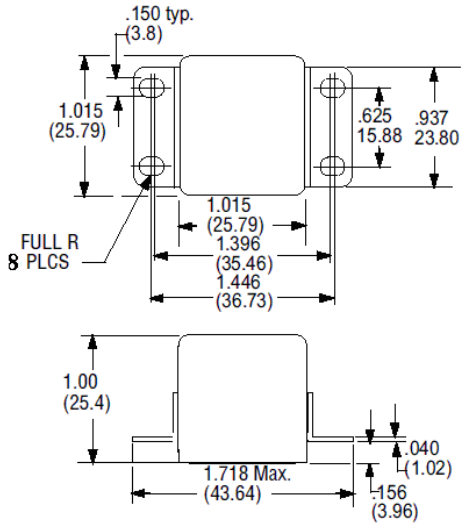
NONE

SHEET

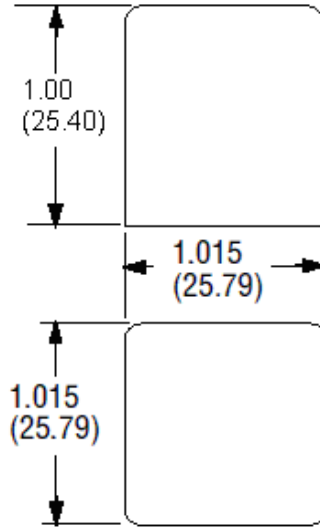
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# ENCLOSURES

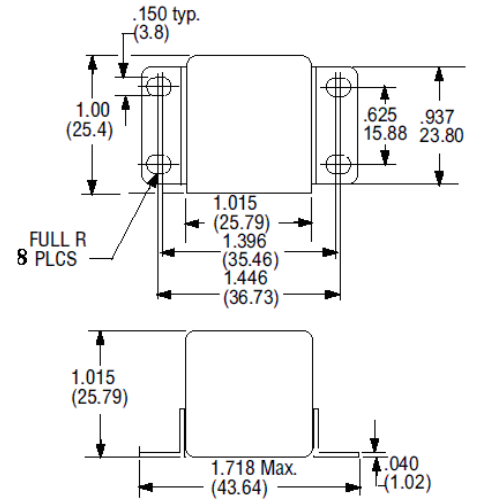
**CODE "V"**



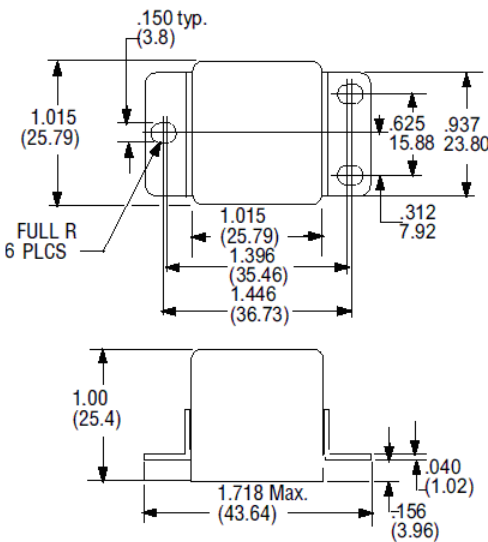
**CODE "Z"**



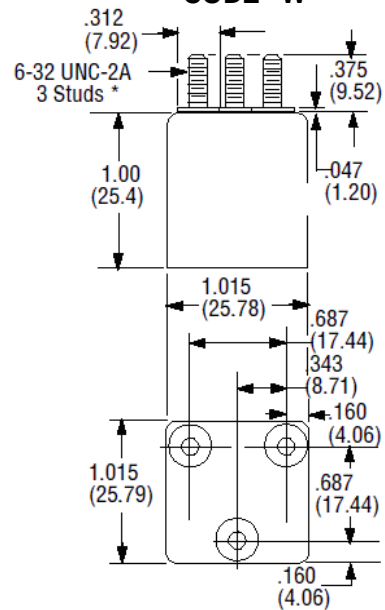
**CODE "X"**



**CODE "Y"**



**CODE "W"**



**For Socket pin terminals: specify "Y" enclosure with DC Coils & "V" enclosures with AC Coils.**

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



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## SERIES FCAV-325

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CAGE CODE

SCALE

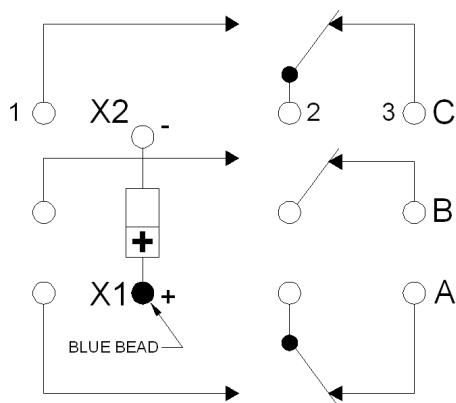
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SHEET

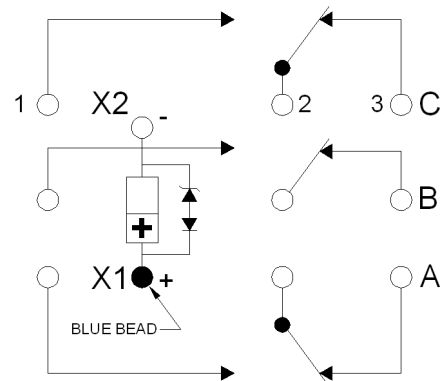
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## TERMINAL WIRING DIAGRAM

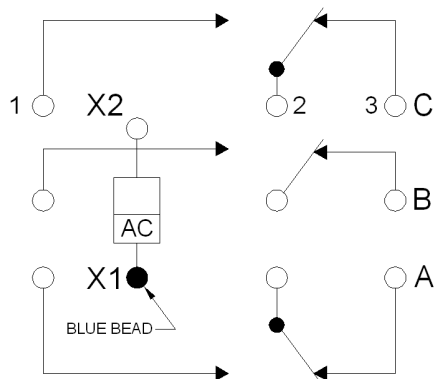
### DC COILS



### DC COILS WITH TRANSIENT SUPPRESSION



### AC COILS



#### **NOTE:**

1. THESE RELAYS ARE POLARIZED WITH PERMANENT MAGNET.
2. DIODES USED IN TRANSIENT SUPPRESSION  
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  
APPEAR ON THE HEADER.



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CAGE CODE

SCALE

NONE

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