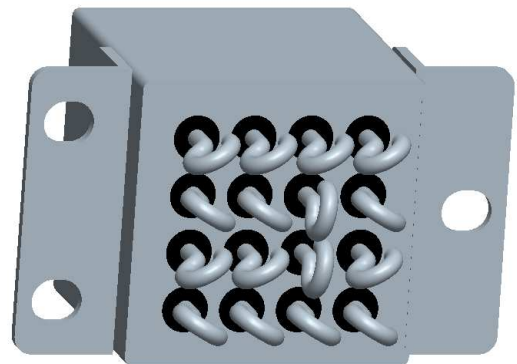
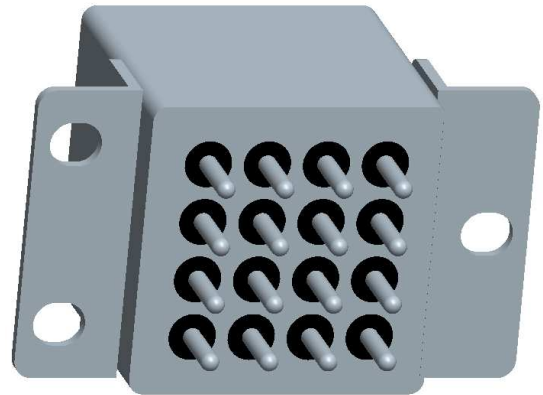


SERIES FCAV-410
RELAY-NONLATCH
5 Ampere/ 230VAC-400 Hz, 4PDT

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

PRODUCT FACTS:

- Non latching Hermetically Sealed Relay.
- Balanced force design.
- All welded construction.
- Permanent Magnet drive. Polarized single side stable design.
- Contacts: Silver Cadmium Oxide with Gold Plating.
- Coils available:
 DC: 6, 12, 28 & 48 Vdc.
 AC: 28,115 VAC (50/400Hz).
- Designed and built in accordance with MIL-PRF-83536.
- 4PDT Switching in One Inch Cube Housing.
- Weight 77.2 grams (2.72 ounces) Max.



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 1396 CHARLOTTE HIGHWAY, FAIRVIEW, NC 28730

SERIES FCAV- 410

Dimensions shown for reference
 Only. Specifications subject to change.

CAGE CODE

SCALE

N/A

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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 FEET	350 Vrms
Insulation resistance: Initial at 500 Vdc	100 MΩ min.
After life or environmental test	50 MΩ min.
Vibration Sinusoidal:* Z & Y Enclosures	0.12 DA 10 to 70 Hz 30G for 70 to 3000 Hz
W, X & M Enclosures	0.12 DA for 10 to 57 Hz 20G for 57 to 3000 Hz
Vibration, Random:* Z & Y Enclosures	0.4 g ² /Hz 50-2000Hz
W, X & M Enclosures	0.2 g ² /Hz 50-2000Hz
Shock: Z & Y Enclosures	200g For 6 ms
W, X & M Enclosures	100g For 6 ms
Operate time at nominal voltage :DC Relays	15 ms max.
:AC Relays	20ms max.
Release time at nominal voltage:DC Relays	15ms 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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- 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 Coil 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 ³	28 VDC	120VAC 400 Hz	230VAC 400 Hz	120/200 VAC 3 ϕ	
					400 Hz	60 Hz*
Resistive	100	10	10	5	10	2.5
Inductive	20	8	8	-	8	2.5
Motor	100	4	4	-	4	2.0
Lamp	100	2	2	-	2	1
* 60 Hz Loads rated for 10000 operations						

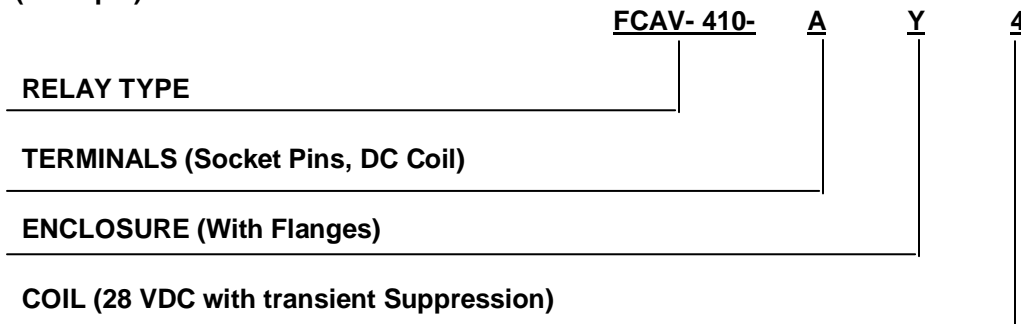
- A. Overload Current 40 Amps DC, 60 Amps 400 Hz.
- B. Rupture Current 50 Amps DC, 80 Amps 400 Hz.
- C. Contact Make Bounce 1 Millisecond at Nominal Voltage.
- D. Max. Contact drop at 10 Amps: initial 0.100 Volts.
- E. End of Life 0.125 Volts.

All endurance ratings are subject to validation - consult factory

PART NUMBERING SYSTEM

How to Order-:

(Example)



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Terminals

Terminals on 0.200 centers.

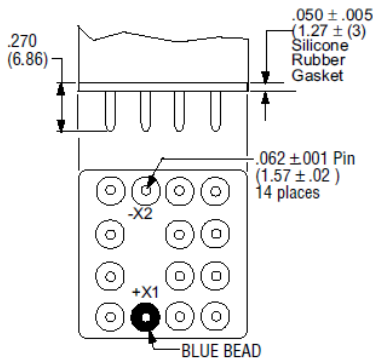
Coil terminals: X1-X2; Socket pins are

Gold Plated.

Circuit Board Pins are Tin/Lead

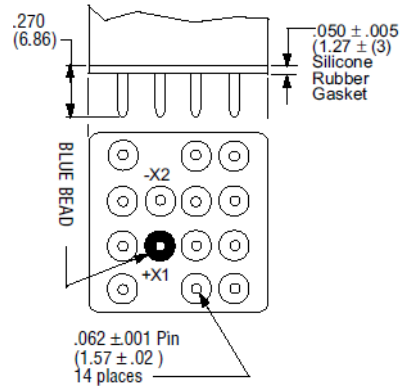
CODE "A"

Socket pins- All DC Coils



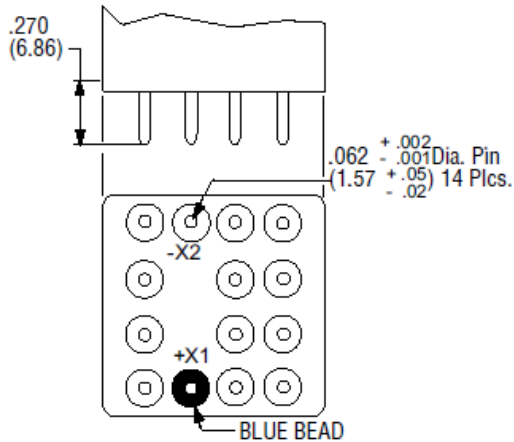
CODE "D"

Socket pins- 115 VAC Coils



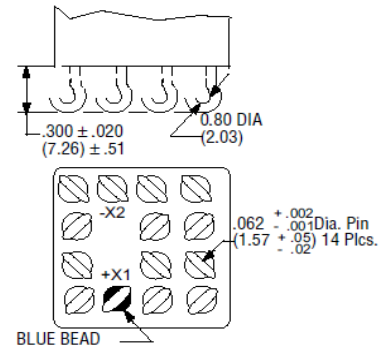
CODE "B"

Circuit Board Pins- All DC Coils



Code "C" Solder Hooks-AC or DC Coils

HOOK TERMINALS TIN/LEAD PLATED



**Dimensions are shown in inches ±.010 and (Millimeters ±.25)



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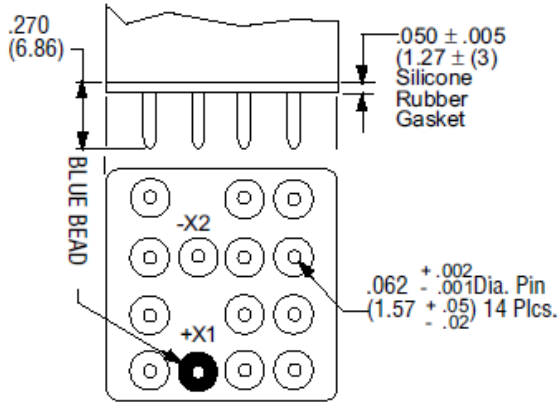
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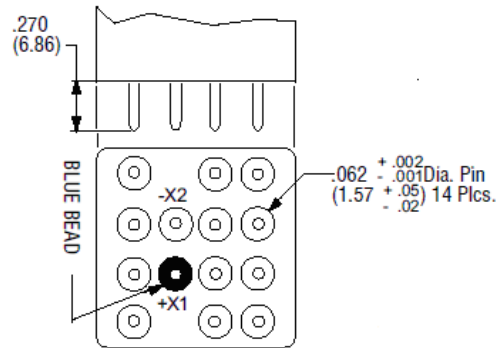
SHEET

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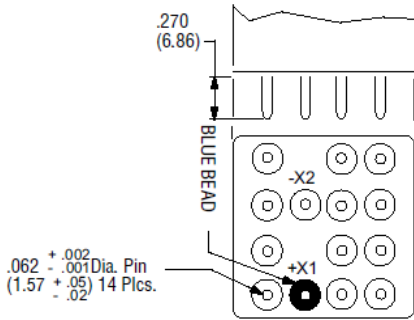
CODE "E"
Socket pins- 28 VAC Coils



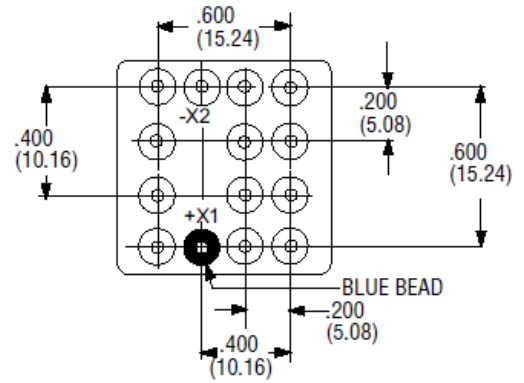
CODE "F"
Circuit board pins- 115 VAC Coils



CODE "G"
Circuit board pins- 28 VAC Coils



TERMINAL LAYOUT



**Dimensions are shown in inches ± .010 and (Millimeters ±.25)



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CAGE CODE

SCALE

N/A

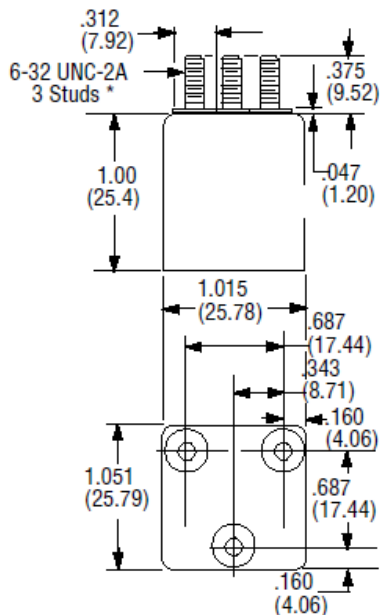
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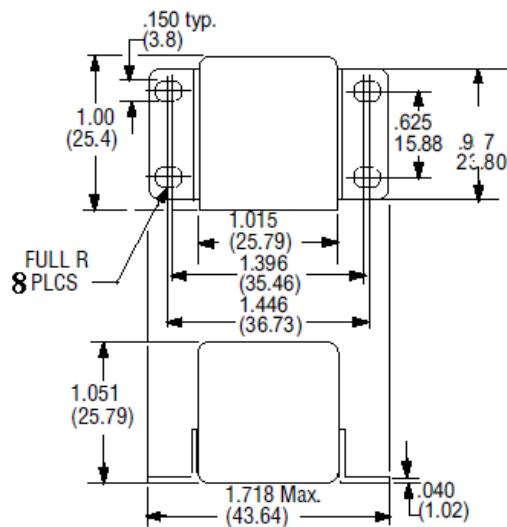
ENCLOSURES

All Enclosures have Cupro-Nickel
Cans bright acid tin/lead plated after
Assembly to terminal headers.

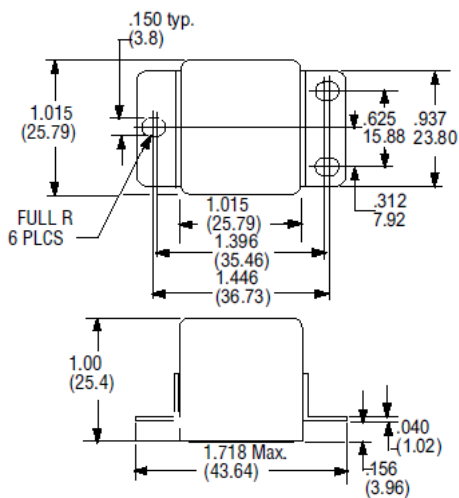
CODE "W"



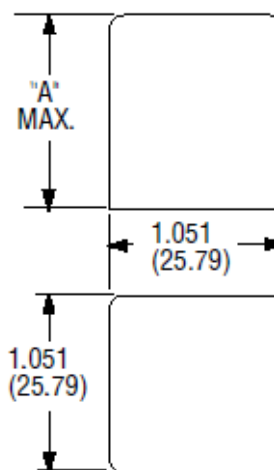
CODE "X"



CODE "Y"



CODE "Z"



"A" DC COILS 1.01in. (25.65) MAX.

*Dimensions are shown in inches ± 0.010 and (Millimeters ± 0.25) except as noted.

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SCALE

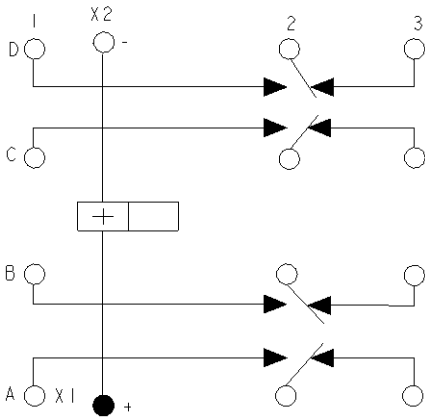
N/A

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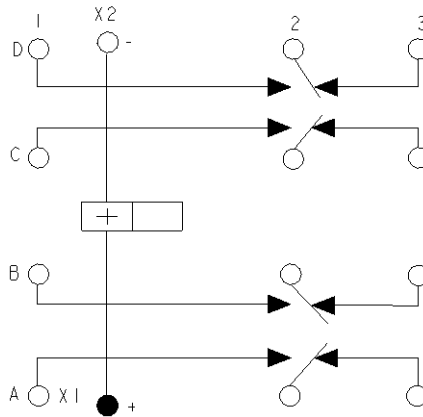
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TERMINAL WIRING DIAGRAM

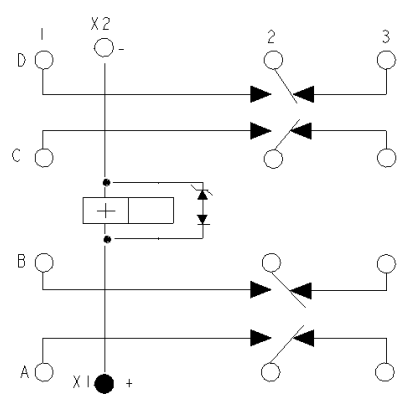
A&B pin terminal all DC Coils



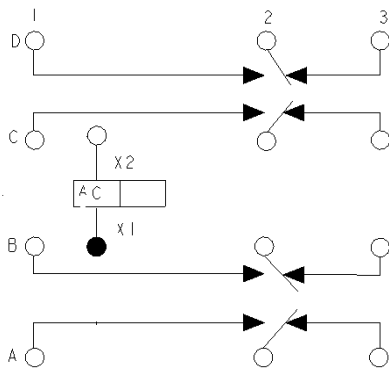
C Hook pin terminal all AC & DC Coils



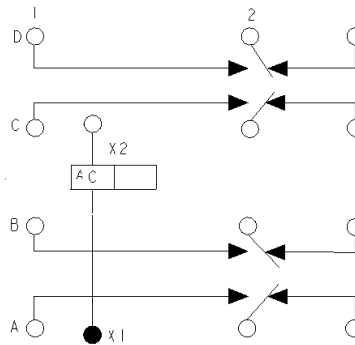
Transient suppression circuit



D&F Pin terminal 115 vac coils



E&G Pin terminal 28 vac coils



NOTES:

1. POLARITY MUST BE OBSERVED WITH DC COIL SUPPLY. RELAY IS POLARIZED AND WILL NOT OPERATE OR 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 APPEAR ON THE HEADER.



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SCALE

N/A

SHEET

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