

**Applicable sockets:**  
SO-1056-8691

**Application Notes:**  
103D  
102  
101  
023  
007

- Magnetic latch operation
- All weld construction

• Contact arrangement

4 PDT

• Qualified to

MIL-PRF-83536

## PRINCIPLE TECHNICAL CHARACTERISTICS

- Contacts rated at 28 Vdc; 115 Vac, 400 Hz, and 115/200 Vac, 3Ø
- Weight 0.156 lbs. max
- Dimensions 1.01 in x 1.01 in x 1.00 in
- Special models available upon request
- Hermetically sealed, corrosion resistant metal can

## CONTACT ELECTRICAL CHARACTERISTICS

Contact rating per pole and load type [1]	Load current in Amps			
	@28 Vdc	@115 Vac 400 Hz	@115/200 Vac 400 Hz, 3Ø	@115/200 Vac 60 Hz, 3Ø [2]
Resistive	12	12	12	2.5
Inductive [5]	8	8	8	2.5
Motor	4	4	4	2
Lamp	2	2	2	1
Overload	40	60	60	N/A
Rupture	50	80	80	N/A

## COIL CHARACTERISTICS (Vdc)

CODE	A	B	C	M	N [7]	R [7]	V [7]
Nominal operating voltage	28	12	6	48	28	12	6
Maximum operating voltage @ +125°C	29	14.5	7.3	59	29	14.5	7.3
<b>Maximum pickup voltage</b>							
- Cold coil @ +125° C	18	9	4.5	24	18	9	4.5
- During high temp test @ +125° C	19.8	9.9	5	34.5	19.8	9.9	5
- During continuous current test @ +125° C	22.5	11.25	5.7	42	22.5	11.25	5.7
Coil resistance $\Omega \pm 10\%$ at +25° C except types "C" & "V" +20%, -10%	450	112	28	1500	450	112	28

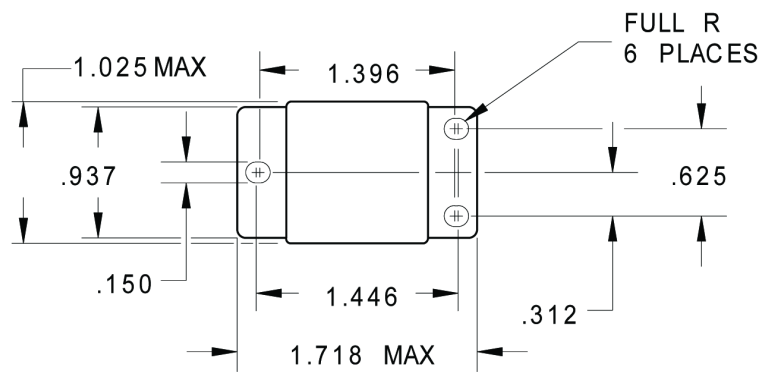
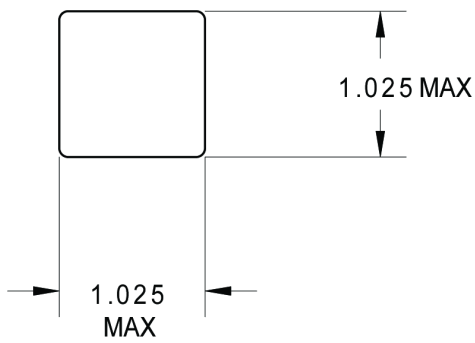
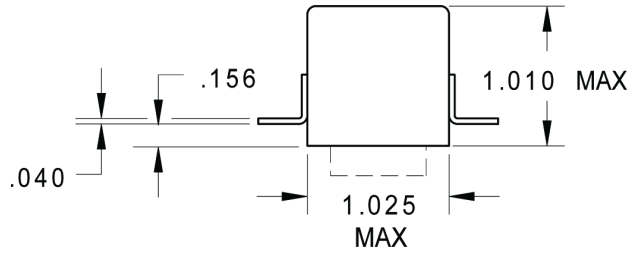
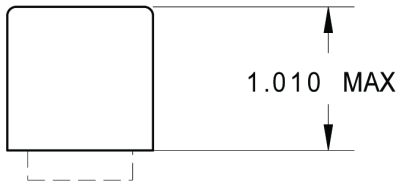
## GENERAL CHARACTERISTICS

Temperature range	-70°C to +125°C
Minimum operating cycles (life) at rated load	100,000
Minimum operating cycles (life) at 25% rated load	400,000
<b>Dielectric strength at sea level</b>	
- All circuits to ground and circuit to circuit	1250 Vrms
- Coil to ground and coil to coil	1000 Vrms
Dielectric strength at altitude 80,000 ft	500 Vrms [2]
<b>Insulation resistance</b>	
- Initial (500 Vdc)	100 M $\Omega$ min
- After environmental tests (500 Vdc)	50 M $\Omega$ min
Sinusoidal vibration (A and D mounting)	0.12 d.a. / 10 to 70 Hz 30G / 70 to 3000 Hz
Sinusoidal vibration (G and J mounting)	0.12 d.a. / 10 to 57 Hz 20G / 57 to 3000 Hz
<b>Random vibration</b>	
- Applicable specification	MIL-STD-202
- Method	214
- Test condition - A and D mounting	1G (0.4G <sup>2</sup> /Hz, 50 to 2000 Hz)
- Test condition - G and J mounting	1E (0.2G <sup>2</sup> /Hz, 50 to 2000 Hz)
- Duration	15 minutes each plane
Shock (A and D mounting)	200G / 6 ms
Shock (G and J mounting)	100G / 6 ms
Maximum contact opening time under vibration and shock	10 $\mu$ s
Operate time at nominal voltage (either coil) @25°C	15 ms max
Contact make bounce at nominal voltage @25°C	1 ms max
Weight maximum	0.156 lbs.

Unless otherwise noted, the specified temperature range applies to all relay characteristics.

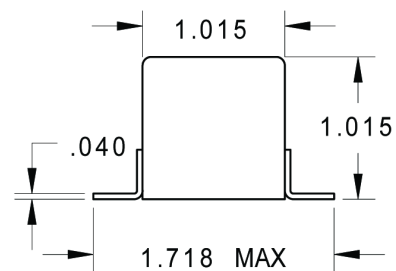
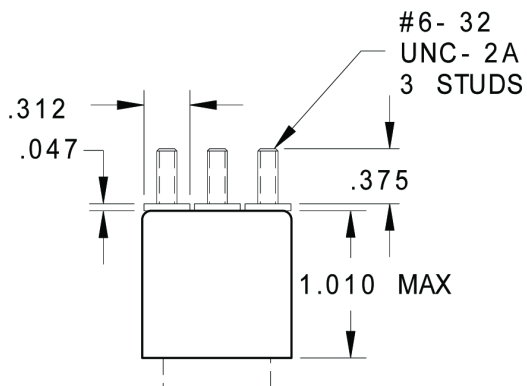
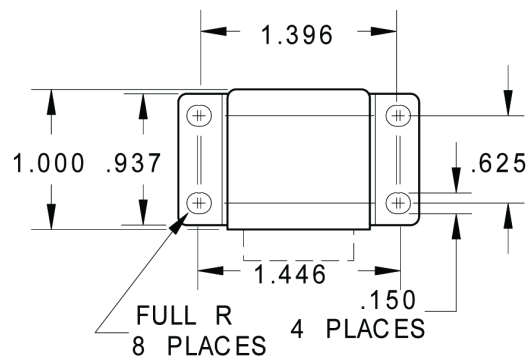
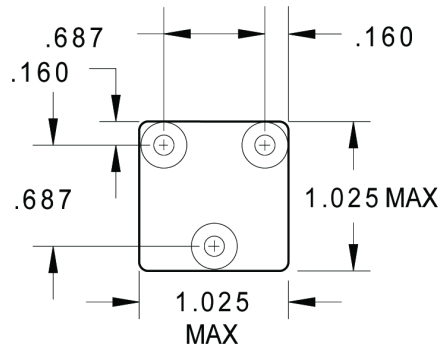
Dimensions in inches  
Tolerances, unless otherwise specified  
XXX ± .010  
XX ± .03

## MOUNTING STYLES



MOUNTING STYLE A

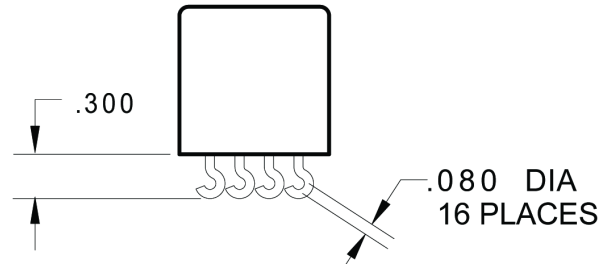
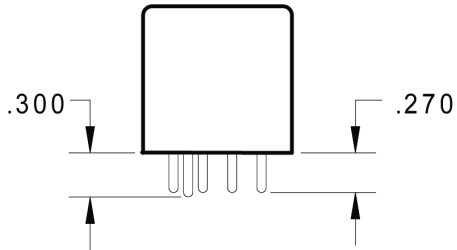
MOUNTING STYLE D



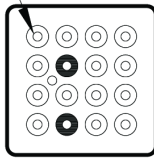
MOUNTING STYLE G

MOUNTING STYLE J

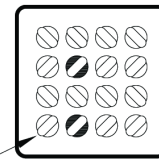
## TERMINAL TYPES



.062 ± .002  
DIA PIN  
17 PLACES

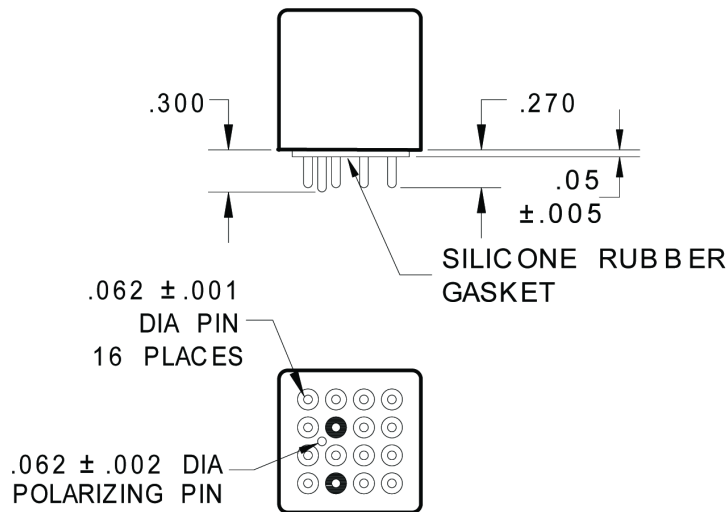


.062 ± .002  
DIA PIN  
16 PLACES



**TERMINAL TYPE 1**  
FINISH: TIN/ LEAD

**TERMINAL TYPE 2**  
FINISH: TIN/ LEAD



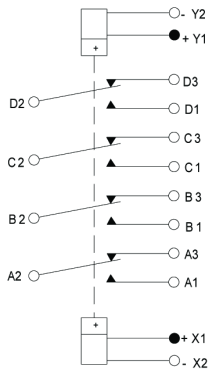
**TERMINAL TYPE 4**

FINISH:  
CASE - TIN / LEAD  
TERMINALS - GOLD PLATED  
POLARIZING PIN - TIN / LEAD

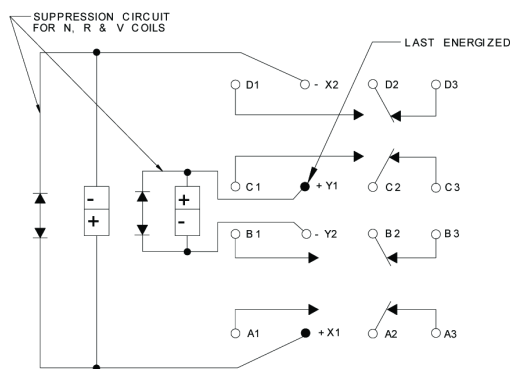
Standard Tolerance: .xx ± .03; .xxx ± .010

## SCHEMATIC DIAGRAM

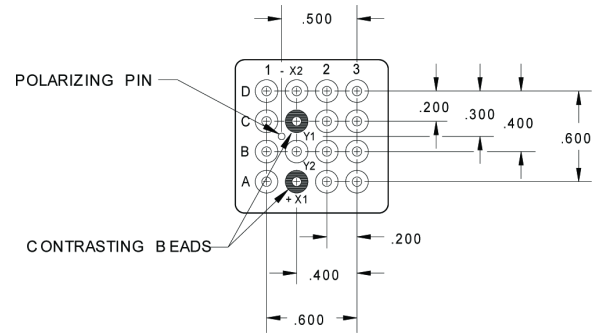
SCHEMATIC DIAGRAM



WRING DIAGRAM



STANDARD TERMINAL LAYOUT



## NUMBERING SYSTEM

KL - A 1 F - XXX

Basic series designation

1. Mounting styles (A, D, G, J,)
2. Terminal types (1, 2, 4,)
3. Coil voltage, see coil characteristics (A, B, C, M, N, R, V)
4. XXX Designators

## NOTES

1. Standard Intermediate current test applicable.
2. 500 Vrms with silicone gasket compressed, 350 Vrms all other conditions.
3. Applicable military specification: MIL-PRF-83536
4. Special models available: Dry circuit, established reliability testing, etc.
5. Inductive load life, 20,000 cycles.
6. 60 Hz load life, 10,000 cycles.
7. "N, R, V & W" coils have back EMF suppression to -5 volts maximum.
8. Relay will not be damaged by applying reverse voltage to the coil, although the relay may transfer.
9. Time current relay characteristics per MIL-PRF-83536/18 & /19.

For any inquiries, please contact your local sales representative: [leachcorp.com](http://leachcorp.com)