



Applicable sockets:
SO-1058-8913



Application Notes:

101
102
103E
007

- Magnetic latch operation
- All weld construction

- Contact arrangement

3 PDT configuration in one inch cube

- Qualified to

MIL-PRF-6106

PRINCIPLE TECHNICAL CHARACTERISTICS

- **Contacts rated at** 28 Vdc; 115 Vac, 400 Hz, 1Ø and 115/200 Vac, 400 Hz 3Ø
- **Weight** 0.188 lb max
- **Dimensions** 1.01in x 1.01in x 1.00in
- **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 [2]	25	25	25	2.5
Inductive [3]	12	15	15	2.5
Motor	10	10	10	2
Lamp	5	5	5	1
Overload	50	80	80	N/A
Rupture	60	100	100	N/A

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COIL CHARACTERISTICS (Vdc)

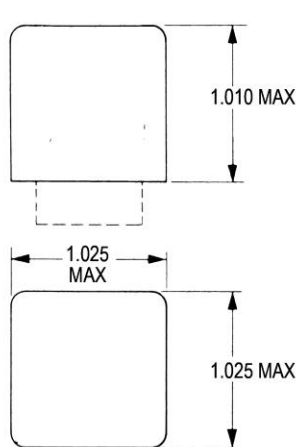
CODE	A	B	C	M	N [7]	R [7]	V [7]
Nominal operating voltage	28	12	6	48	28	12	6
Maximum operating voltage @ +125°C	29	14.5	7.3	59	29	14.5	7.3
Maximum pickup voltage							
- Cold coil @ +125° C	18	9	4.5	24	18	9	4.5
- During high temp test @ +125° C	19.8	9.9	5	34.5	19.8	9.9	5
- During continuous current test @ +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

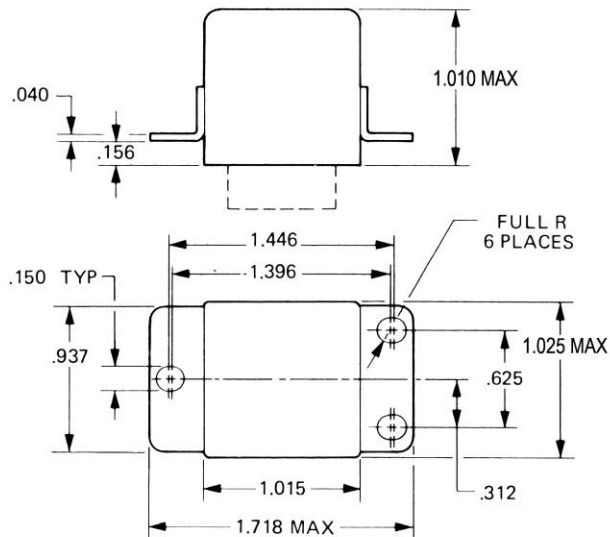
Temperature range	-70°C to +125°C
Minimum operating cycles (life) at rated load	50,000 [3]
Minimum operating cycles (life) at 25% rated load	200,000
Dielectric strength at sea level	
- All circuits to ground and circuit to circuit	1250 Vrms
- Coil to ground and coil to coil	1000 Vrms
Dielectric strength at altitude 80,000 ft	500 Vrms [4]
Insulation resistance	
- Initial (500 Vdc)	100 M Ω min
- After environmental tests (500 Vdc)	50 M Ω min
Sinusoidal vibration (A and D mounting)	0.12 d.a. / 10 to 70 Hz 30G / 70 to 3000 Hz
Sinusoidal vibration (J mounting)	0.12 d.a. / 10 to 57 Hz 20G / 57 to 3000 Hz
Random vibration	
- Applicable specification	MIL-STD-202
- Method	214
- Test condition - A and D mounting	1G (0.4G ² /Hz, 50 to 2000 Hz)
- Test condition - J mounting	1E (0.2G ² /Hz, 50 to 2000 Hz)
- Duration	15 minutes each plane
Shock (A and D mounting)	200G / 6 ms ± 1
Shock (J mounting)	100G / 6 ms ± 1
Operate time at nominal voltage @ 25°C	15 ms max
Release time at nominal voltage @ 25°C	15 ms max
Maximum contact opening time under vibration and shock @ 25°C	10 μ s
Contact make bounce at nominal voltage @ 25°C	1 ms max
Weight maximum	0.188 lb

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

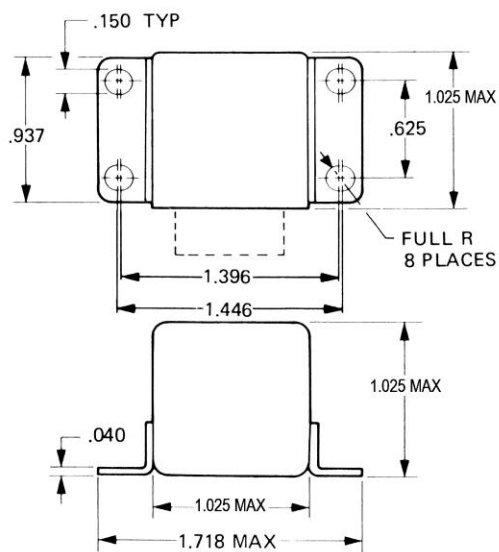
MOUNTING STYLES



MOUNTING STYLE A



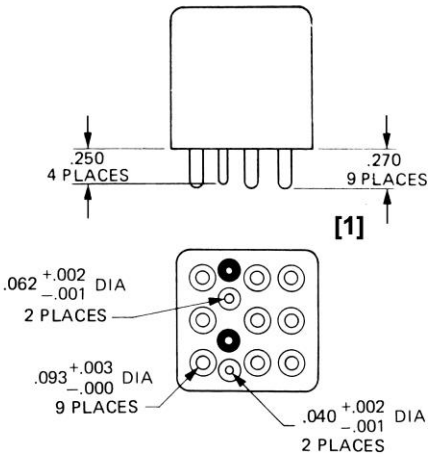
MOUNTING STYLE D



MOUNTING STYLE J

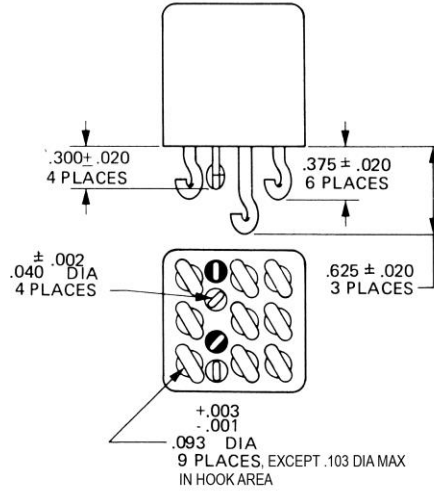
TERMINAL TYPES

FINISH: CASE – PAINTED (optional) / UNPAINTED
 TERMINALS – TIN/LEAD PLATED



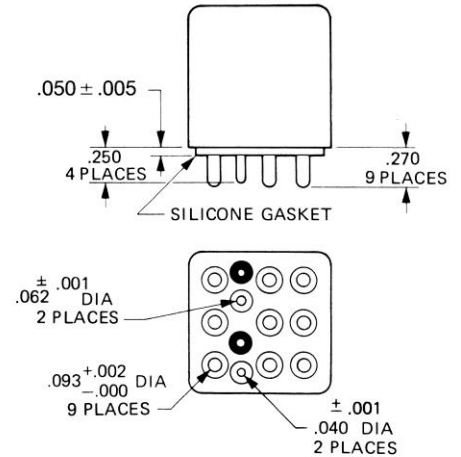
TERMINAL TYPE 1

FINISH: CASE – PAINTED (optional) / UNPAINTED
 TERMINALS – TIN/LEAD PLATED



TERMINAL TYPE 2

FINISH: CASE – PAINTED (optional) / UNPAINTED
 TERMINALS – TIN/LEAD PLATED

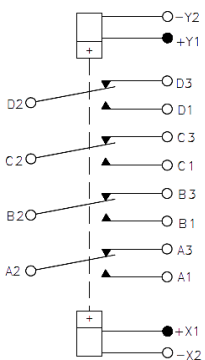


TERMINAL TYPE 4

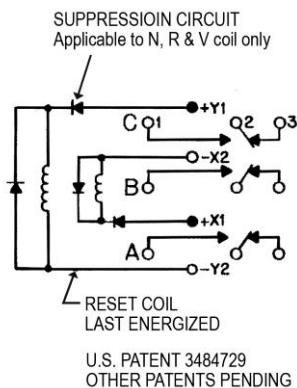
Standard Tolerance: .xx \pm .03; .xxx \pm .010

DIAGRAMS

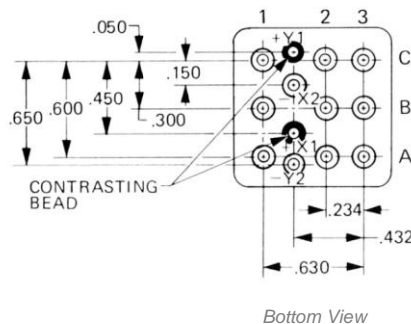
SCHEMATIC DIAGRAM



Wiring Diagram



STANDARD TERMINAL LAYOUT



NUMBERING SYSTEM

KCL - A 4 A - XXX

Basic series designation

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

Example : KCL-A1A-XXX

KCL-A4A (Commercial)

KCL-A4A-102 (MIL)

KCL-A4A-123 (Customer Part)

NOTES

1. Standard Intermediate current test applicable.
2. For full rated load, max. temp. and altitude use no. 12 wire or larger. Relays to be mounted to limit mounting bracket temp. to 135° C.
3. DC inductive load 10,000 cycles, AC inductive load 20,000 cycles.
4. 500 Vrms with silicone gasket compressed, 350 Vrms all other conditions.
5. Applicable military specification: MIL-PRF-6106 and MS27742.
6. Special models available: Dry circuit, established reliability testing, etc.
7. "N, R & V" 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. 60 Hz load life, 10,000 cycles.
10. Time current relay characteristics per MIL-PRF-6106.

For any inquiries, please contact your local Esterline Power Systems representative

<http://www.esterline.com/powersystems/Contact/TheAmericas.aspx>