

# ENGINEERING DATA SHEET

# SERIES KL

RELAY - LATCH  
4 PDT, 12 AMP



**APPLICATION NOTES:**

- [101](#)
- [102](#)
- [103D](#)
- [007](#)
- [023](#)

**APPLICABLE SOCKET:**

- [SO-1056-8691](#)
- [SO-SSL](#)

Magnetic latch operation  
All welded construction  
Contact arrangement **4 PDT**  
Qualified at 10Amps to **MIL-PRF-83536**

**PRINCIPLE TECHNICAL CHARACTERISTICS**

Contacts rated at **28 Vdc; 115 Vac, 400 Hz, and 115/200 Vac 3Ø**  
Weight **0.156lb max**  
Dimensions **1.01in x 1.01in x 1.00in**  
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 [6]
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



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Data sheets are for initial product selection and comparison. Contact Esterline Power Systems prior to choosing a component.

**COIL CHARACTERISTICS (Vdc)****SERIES KL**

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 at +125° C	18	9	4.5	24	18	9	4.5
- During high temp test at +125° C	19.8	9.9	5	34.5	19.8	9.9	5
- During continuous current test at +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
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 [2]
Insulation resistance	
- Initial (500 Vdc)	100 M $\Omega$ min
- After environmental tests (500 Vdc)	50 M $\Omega$ min
Sinusoidal vibration (A and D mounting)	0.12DA / 10 to 70 Hz 30G / 70 to 3000 Hz
Sinusoidal vibration (G and J mounting)	0.12DA / 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 <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	0.156lb

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

# NOTES

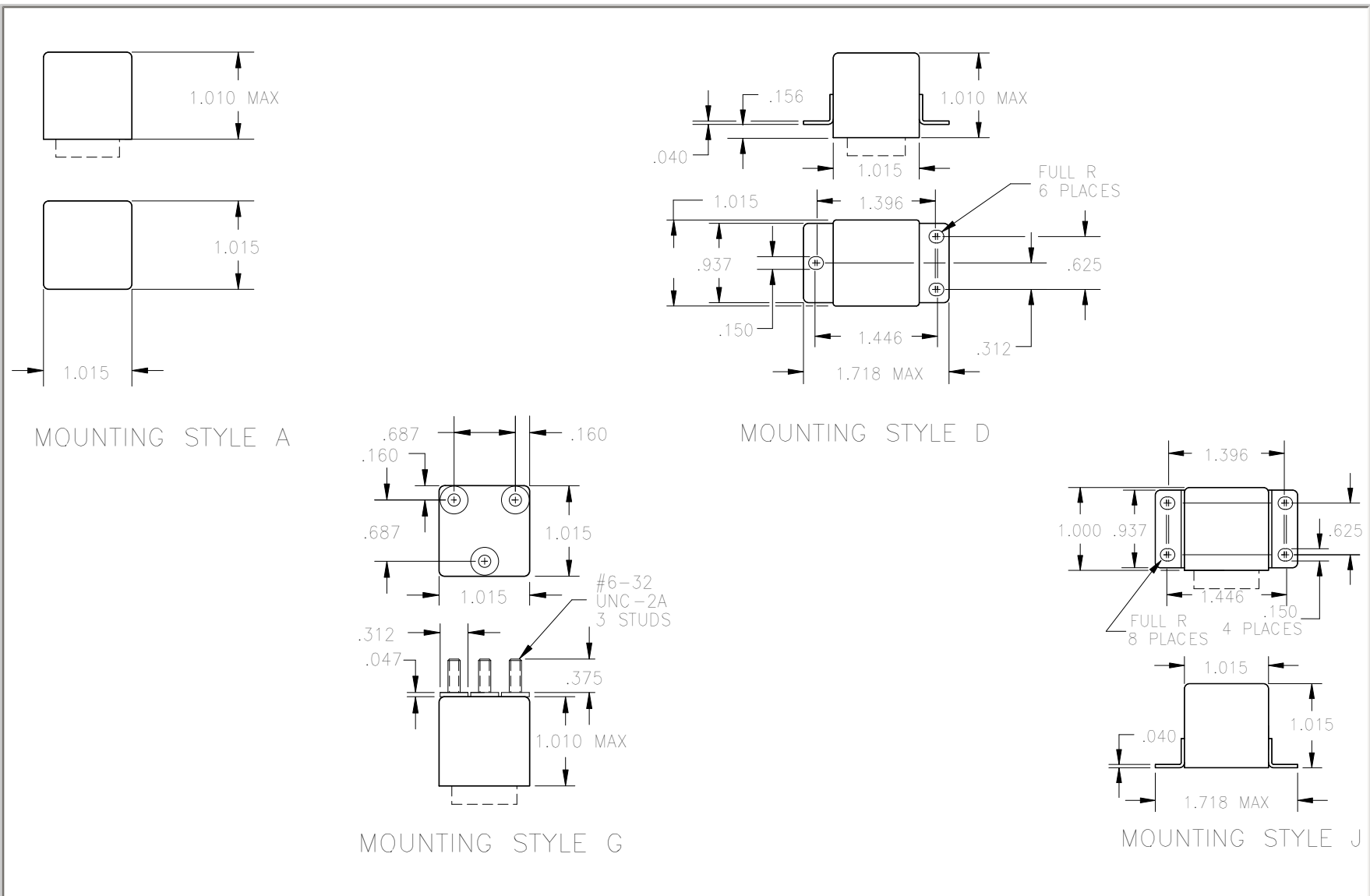
# SERIES KL

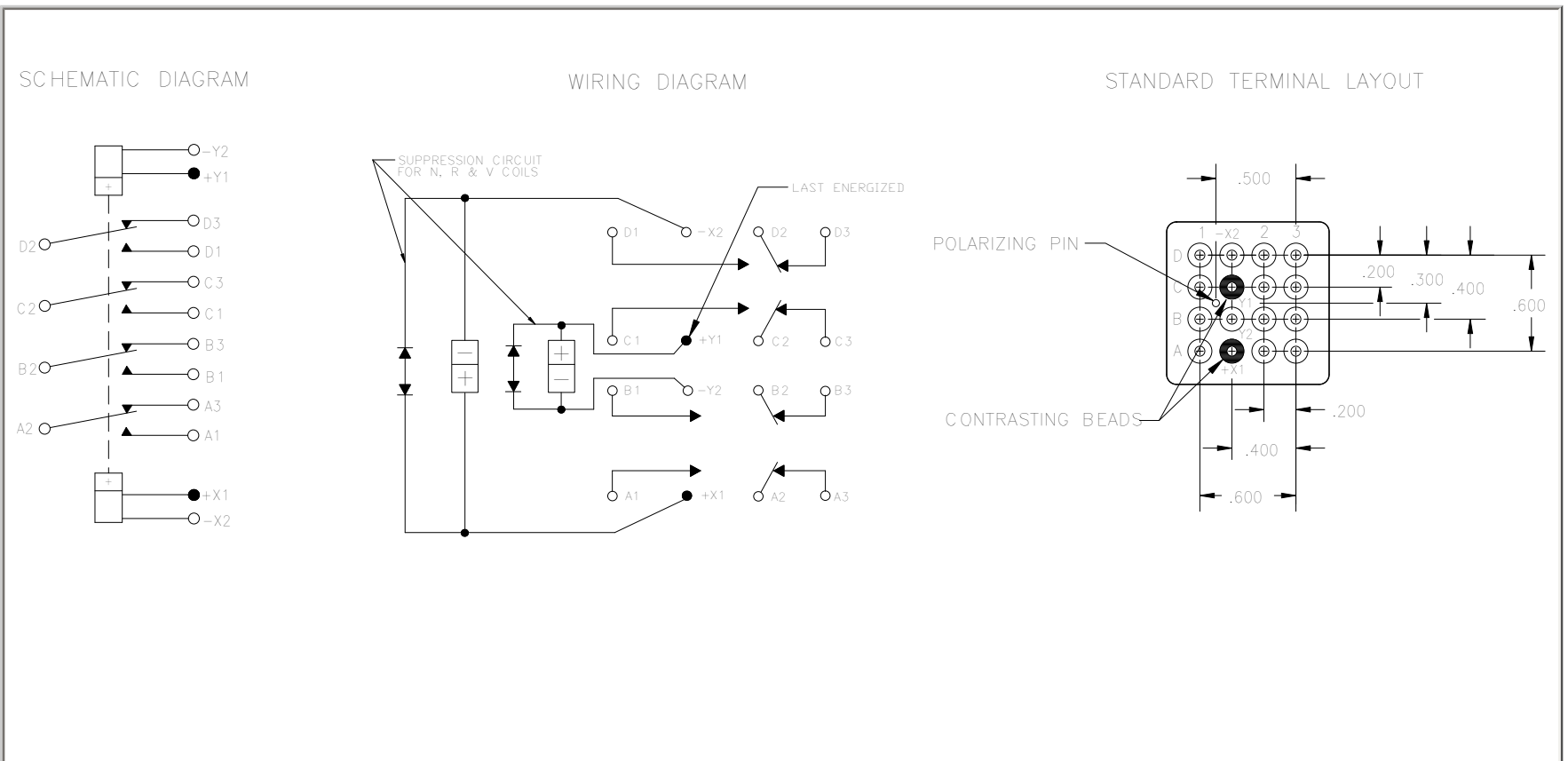
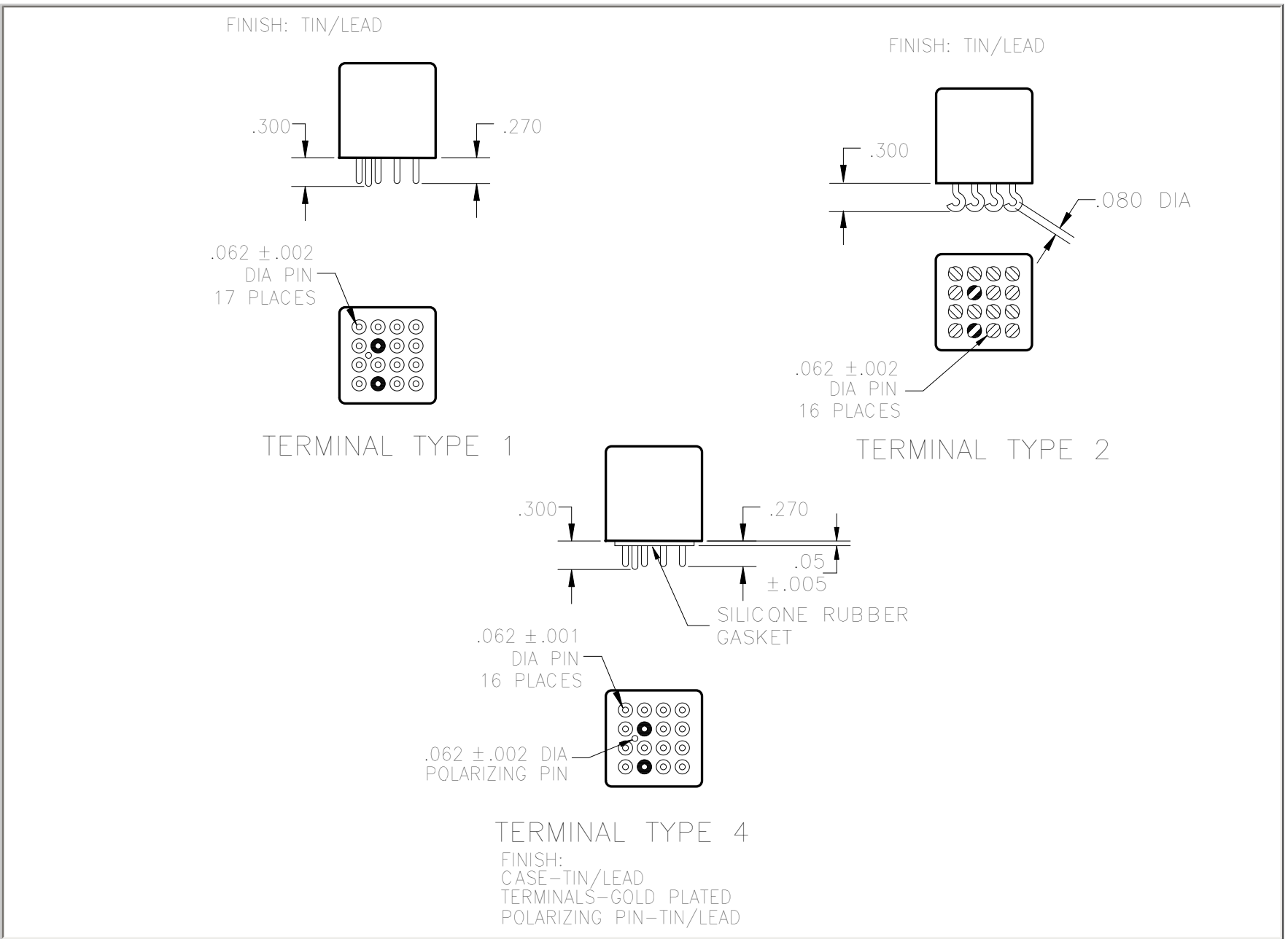
- [1] Standard Intermediate current test applicable.
- [2] 500 Vrms with silicone gasket compressed, 350 Vrms all other conditions.
- 3. Applicable military specification: MIL-PRF-83536.
- 4. Special models available, i.e. dry circuit, high reliability testing, etc.
- [5] Inductive load life, 20,000 cycles.
- [6] 60 Hz load life 10,000 cycles.
- [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. Time current relay characteristics per MIL-PRF-83536/18 & /19.

## NUMBERING SYSTEM

	KL	-	A	1	A
Basic series designation _____					
1-Mounting Style (A,D,G,J,W) _____					
2-Terminal Types (1,2,4) _____					
3-Coil Voltage see coil characteristics (A,B,C,M,N,R or V) _____					

## MOUNTING STYLES





STD. TOL: .XX  $\pm .03$ ; .XXX  $\pm .010$