

ENGINEERING DATA SHEET

SERIES ZL, ZLD

CONTACTOR, MAGNETIC LATCH
3 PDT, 120 AMP



Balanced-Force design
Hermetically sealed
Contact arrangement **3 PDT**
Designed to the performance standards of **MIL-PRF-6106**

PRINCIPLE TECHNICAL CHARACTERISTICS

Contacts rated at **28 Vdc and 115 Vac, 400 Hz, 1 Ø and 115/200 Vac, 400Hz, 3 Ø**
Weight **See Mounting**
Special units available upon request, including models with auxiliary contacts.

APPLICATION NOTES:

- [101](#)
- [102](#)
- [104](#)
- [007](#)

CONTACT ELECTRICAL CHARACTERISTICS

Contact rating per pole and load type	Load current in Amps					
	28 Vdc	115 Vac 400 Hz	115/200 Vac 400 Hz, 3 Ø	28 Vdc [4]	28 Vdc [9]	DELTA 115/200 Vac 60 Hz
Resistive	50	120	120	120	200	60
Inductive [1]	30	120	120	80	-	60
Motor	30	80	80	60	-	60
Load transfer, resistive[6]	-	-	120	-	-	-



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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 ZL, ZLD**

CODE	A	B	C	F Vac 400 Hz	N [5]	Y [7]	YN [5]
Nominal operating voltage	28	12	6	115	28	28	28
Maximum operating voltage	29	14.5	7.3	124	29	29	29
Set & reset voltage, maximum							
- Nominal	18	9	4.5	90	18	18	18
- High temp test	20	10	5	95	20	20	20
- Continuous current test	22.5	11	5.7	100	22.5	22.5	22.5
Drop-out voltage, maximum	N/A	N/A	N/A	90	N/A	N/A	N/A
Coil resistance in Ohms $\pm 20\%$ at $+25^{\circ}\text{C}$	163	40	10	-	163	xx/xxx	xx/xxx
Coil current Amp max. @ Nom. Volt. and $+25^{\circ}\text{C}$	-	-	-	0.085	-	-	-

GENERAL CHARACTERISTICS

Temperature range	-55°C to +71°C
Minimum operating cycles (life) at rated resistive load	50,000
Minimum operating cycles (life) at 25% rated resistive load	100,000
Dielectric strength at sea level	
- All circuits to ground	1500 Vrms
- Coil to ground and Aux.contacts	1250 Vrms
Dielectric strength at altitude: 70,000 feet	500 Vrms
Insulation resistance	
- Initial (500 Vdc)	100 M Ω min
- After environmental tests (500 Vdc)	50 M Ω min
Sinusoidal vibration (55 to 500 Hz)	10 G
Shock (10-12 ms duration)	15 G
Maximum contact opening time under vibration and shock	10 μs
Operate time at nominal voltage (Including bounce)	60 ms max 25 ms max (Economizer coil)
Contact bounce at nominal voltage	4 ms max
Weight	Noted
Overload	800 Amperes
Rupture	1000 Amperes
Altitude	50,000 Feet

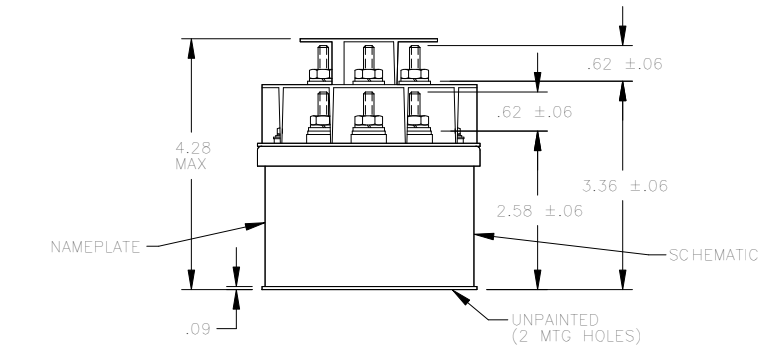
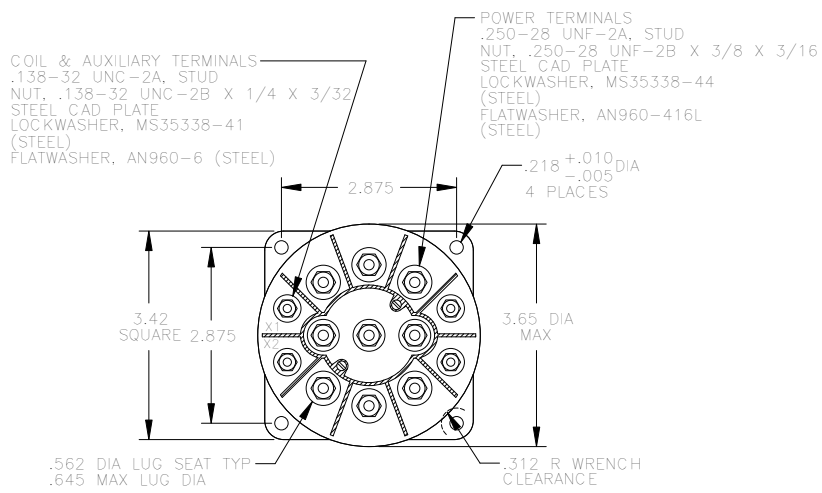
NUMBERING SYSTEM

SERIES ZL, ZLD

	ZL	-	X	0	X
	[8] ZLD	-	X	0	X
Relay family_____					
1-Mounting Style(A,B,Etc.)_____					
2-Terminal & Circuit_____					
3-Coil Voltage(A,B,C,F & N)_____					

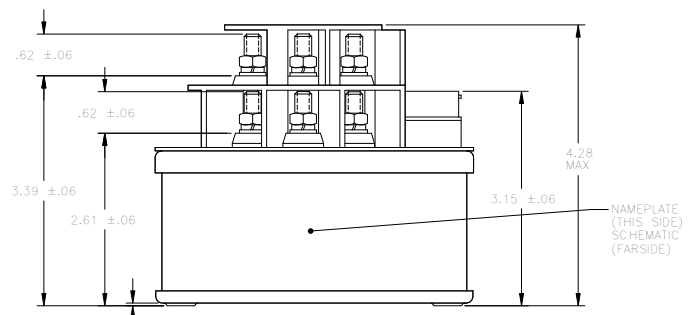
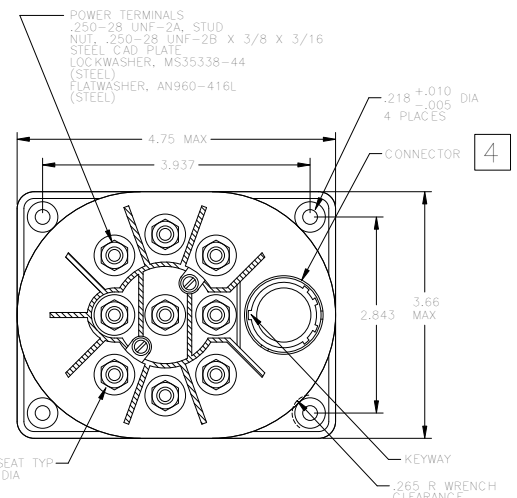
NOTES

- [1] Inductive load life, 20,000 cycles.
- 2. Terminal strength per para. 3,4,8,2,1 of MIL-R-6106.
- 3. Alternate contact configurations and other special models available upon request; Please contact factory.
- [4] Ratings are for double break/make terminal type 6.
- [5] Back EMF suppression to 62 Volts max. Consult factory.
- [6] Suitable for transfer between unsynchronized AC power sources at rating shown.
- [7] Economizer coils have a lower resistance primary coil for faster operate time. Once relay operates, the coil switches to a higher resistance for lower power drain. Do not ramp up voltage on these coils.
- [8] Non hermetic gasket sealed version.
- [9] Available - 200 Amps resistive, 25,000 cycles only, terminal style 6.



MOUNTING STYLE A

WEIGHT: 2 LB MAXIMUM
 WEIGHT IS DEPENDENT UPON CONFIGURATION REQUIRED.
 PLEASE CONSULT FACTORY.

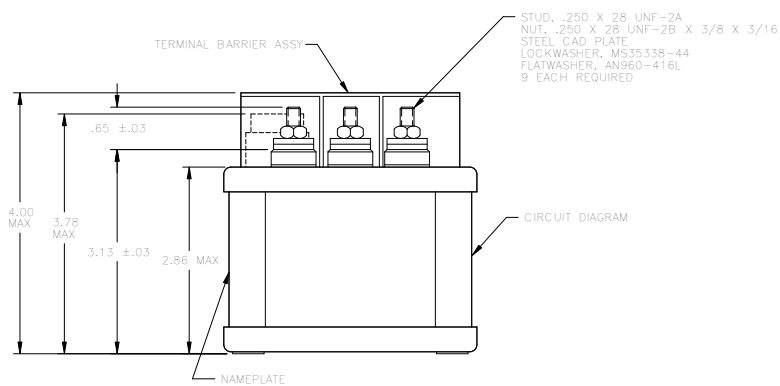
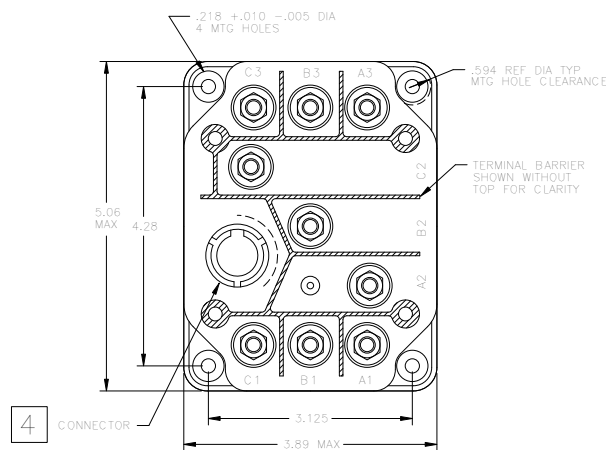


MOUNTING STYLE B

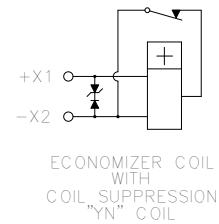
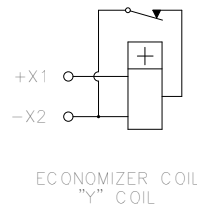
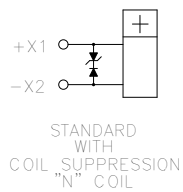
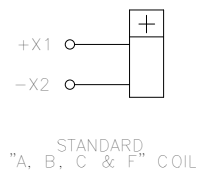
WEIGHT: 2 LB 12 OZ MAXIMUM
 WEIGHT IS DEPENDENT UPON CONFIGURATION REQUIRED.
 PLEASE CONSULT FACTORY.

MOUNTING STYLE K

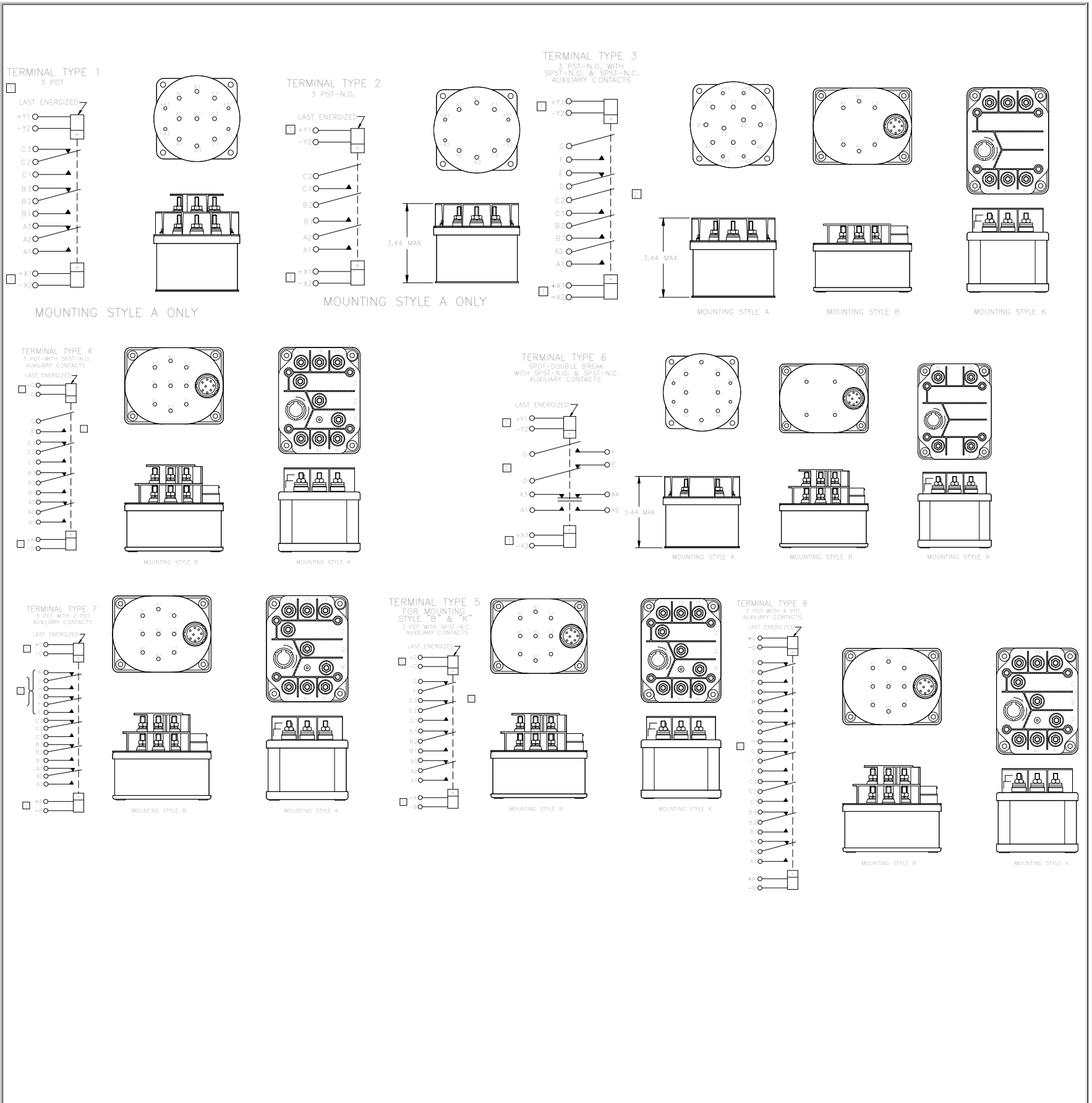
WEIGHT: 2 LB 13 OZ MAXIMUM



COIL CIRCUIT CONFIGURATION 3



Standard Tolerance: .XX \pm .03, .XXX \pm .010



TERMINAL TYPE 9
IS A GENERAL CATEGORY USED FOR ALL TERMINAL
TYPES NOT ILLUSTRATED. FOR OTHER VARIATIONS OF
TERMINAL CONFIGURATIONS—PLEASE CONTACT
FACTORY.

- 1 POLARITY INDICATION APPLIES TO D.C. COILS ONLY
- 2 AUXILIARY CONTACT RATING 28 VDC OR 115 VAC
RESISTIVE 5 AMP
INDUCTIVE 3 AMP
LAMP 1 AMP
BOUNCE AT NOMINAL VOLTAGE .004 SEC MAX
- 3 COIL TERMINALS MAY BE IDENTIFIED AS
A-B, X1-X2, Y1-Y2 OR X-Y.
- OTHER AUXILIARY CONTACT FORMS AVAILABLE.
PLEASE CONTACT FACTORY.
- 4 CIRCULAR CONNECTOR MS-STYLE OR EQUIVALENT

NOTE: Although all configuration and/or terminal type options are available, some combinations may require a setup charge and be subject to minimum order size.