ENGINEERING DATA SHEET

SERIES Z, ZD

POWER CONTACTOR
120 AMP

APPLICATION NOTES:
101
102
104
105
007

Balanced-Force Design

Hermetically sealed

Designed to the performance standards of **MIL-PRF-6106**

PRINCIPLE TECHNICAL CHARACTERISTICS

Contacts rated at **28 Vdc and 115 Vac, 400 Hz, 1Ø and 115/200 Vac 400Hz, 3Ø**

Weight **See Mounting**

Special units available upon request, including models with auxiliary contacts. Optional Ground Fault Protection (GFP) feature available.

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, 3Ø	28 Vdc [3]	28 Vdc [8]	DELTA 115/200 Vac 60 Hz
Resistive [1]	50	120	120	120	200	60
Inductive [2]	30	120	120	80	-	60
Motor	30	80	80	80	-	60
Load transfer, resistive[7]	-	-	120	-	-	-

Esterline Power Systems

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COIL CHARACTERISTICS (Vdc) SERIES Z, ZD

CODE	A	B	C	F Vac 400 Hz	N [6]	Y [9]	YN [6]
Nominal operating voltage	28	12	6	115	28	28	28
Maximum operating voltage	29	14.5	7.3	124	29	29	29
Pick-up 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	7	4.5	2.5	30	7	7	7
Coil resistance in Ohms ±10% at +25° C	113	28	7	-	113	-	-
Coil current Amp max. @ Nom. Volt. and +25° C	0.31	0.60	1.20	0.12	0.31	6/68	6/68

GENERAL CHARACTERISTICS

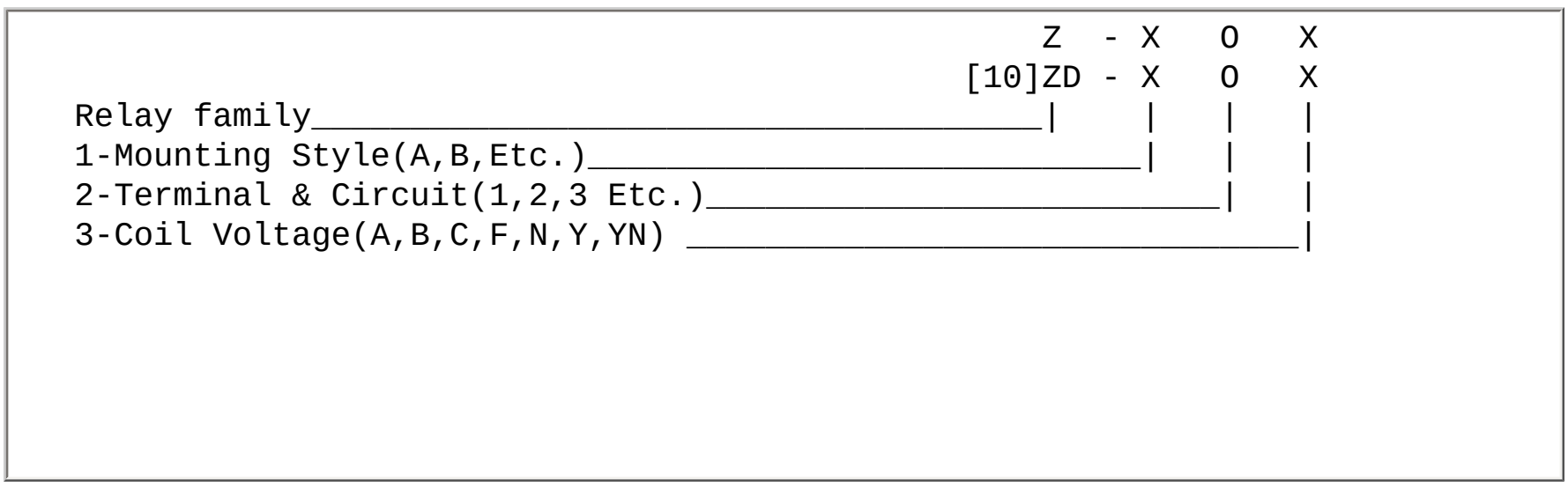
Temperature range	-55°C to +71°C
Minimum operating cycles (life) at rated resistive load	50,000
Minimum operating cycles (life) at 25% rated resistive load	100,000
Dielectric strength at sea level	
- All circuits to ground and circuit to circuit	1500 Vrms
- Coil to ground and Aux.contacts	1250 Vrms
Dielectric strength at altitude	700 Vrms (Main contacts) 500 Vrms (Coil and auxiliary contacts)
Insulation resistance	
- Initial (500 Vdc)	100 M Ω min
- After environmental tests (500 Vdc)	50 M Ω min
Sinusoidal vibration (55 to 1000 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)
Release time at nominal voltage (Including bounce)	
- DC	40 ms max
- AC	125 ms max
Release time at nominal voltage (Including bounce) : Economizer coil	
- DC	35 ms max

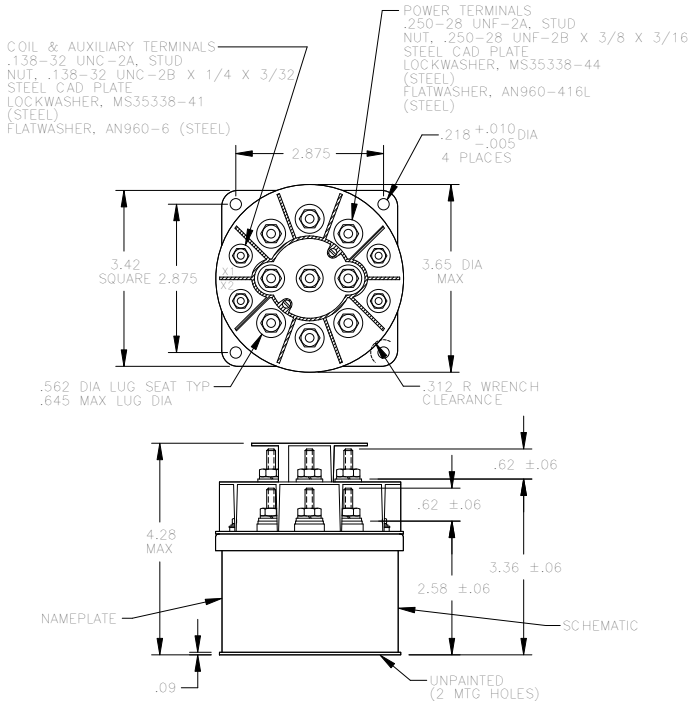
Contact bounce at nominal voltage	4 ms max
Weight	Noted
Overload	800 Amps @ 115/200 Vac, 400 Hz
Rupture	1200 Amps @ 115/200 Vac, 400 Hz
Altitude	50,000 Feet

NOTES

[1] Auxiliary contact rating - see page 5, note [2].
[2] Inductive load life, 20,000 cycles.
[3] Ratings are for double break/double make terminal type 6.
[4] Alternate contact configurations and other special models available upon request. Please contact factory.
5. Terminal strength per para. 3,4,8,2,1 of MIL-R-6106F, Dated 8-25-67.
[6] Suppressed back EMF suppression to 62 Volts max.
[7] Suitable for transfer between unsynchronized AC power sources at rating shown.
[8] 200 Amps resistive, 25,000 cycles only, terminal style 6.
[9] 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.
[10] Non hermetic gasket sealed version.
11. This series drawing is for general use only. Please consult factory for special requirements.

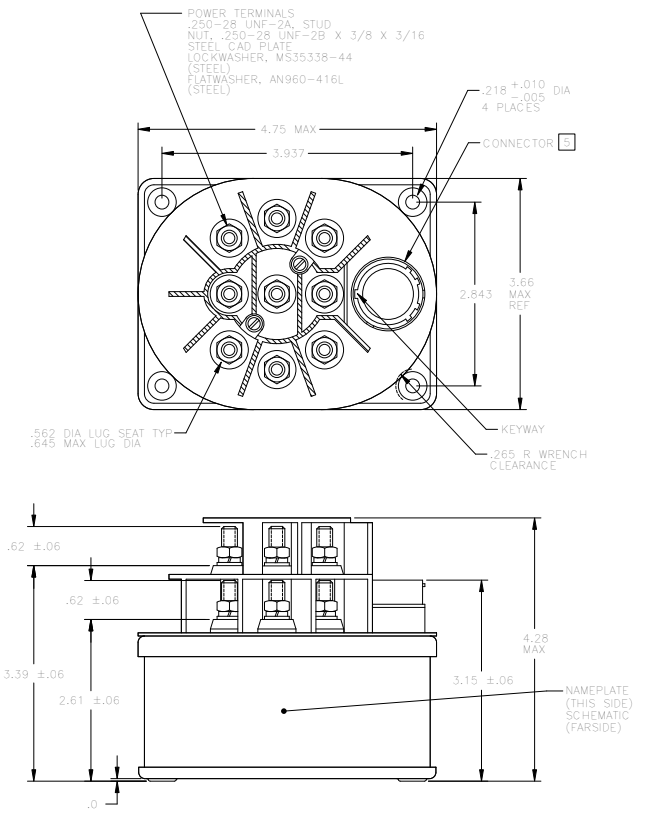
NUMBERING SYSTEM





MOUNTING STYLE A

WEIGHT: 2 LB 4 OZ MAXIMUM
WEIGHT IS DEPENDENT UPON CONFIGURATION REQUIRED.
PLEASE CONSULT FACTORY.

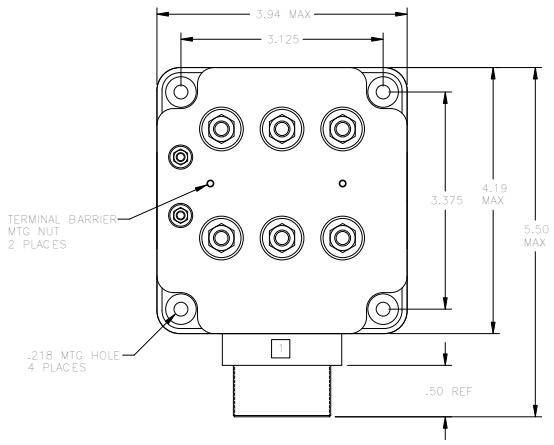


MOUNTING STYLE B

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

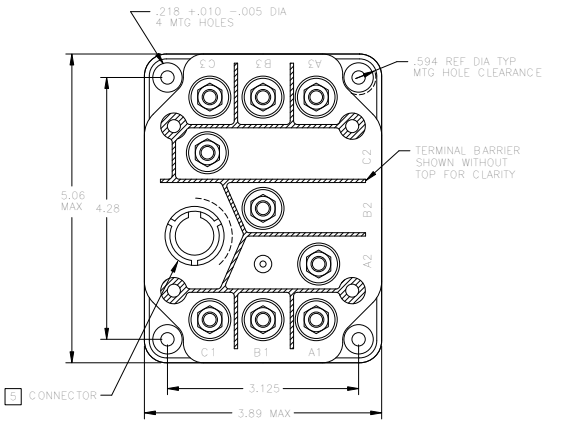
MOUNTING STYLE H

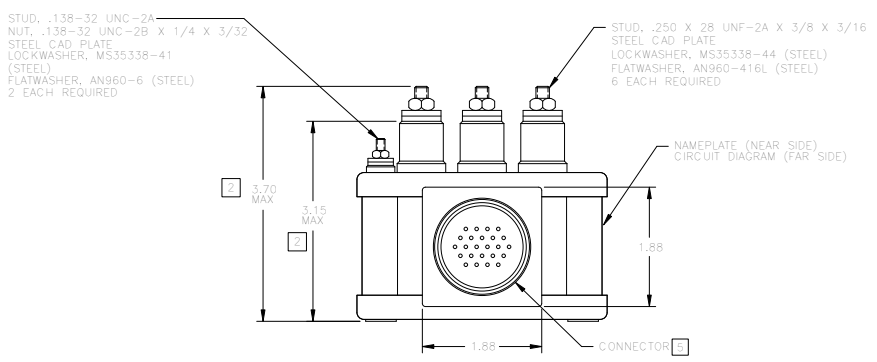
WEIGHT: 2 LB 8 OZ MAXIMUM

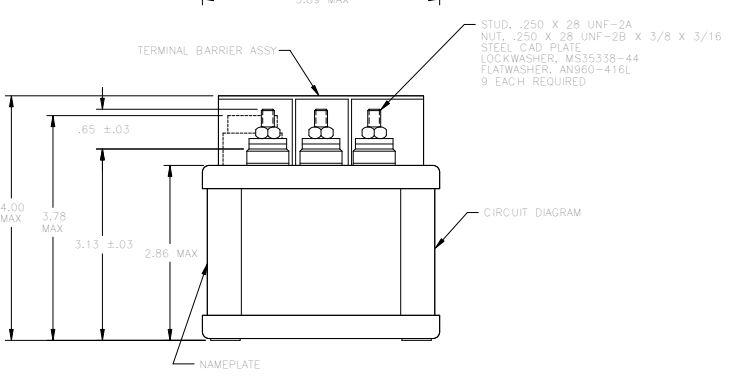


MOUNTING STYLE K

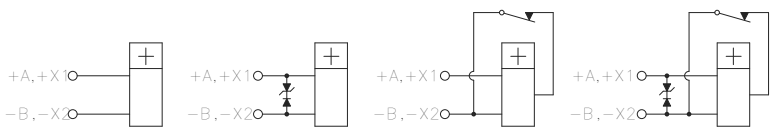
WEIGHT: 2 LB 13 OZ MAXIMUM







COIL CIRCUIT CONFIGURATION 3 4

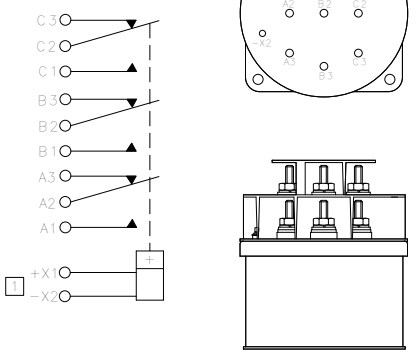


NOTES:

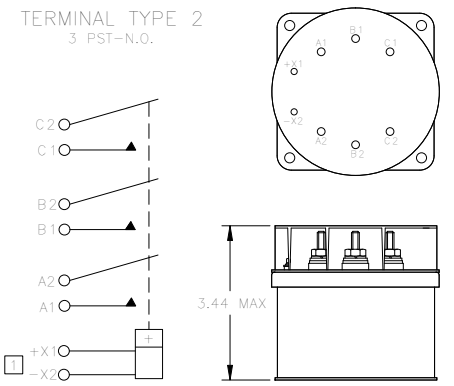
1. CAN BE DELETED.
2. MAXIMUM DIMENSIONS CAN BE REDUCED BY .500 INCH.
3. POLARITY INDICATION APPLIES TO D.C. COILS ONLY.
4. COIL TERMINALS MAY BE IDENTIFIED AS A-B, X1-X2, Y1-Y2 OR X-Y.

STANDARD TOLERANCE: XX ± .03, XXX ± .010

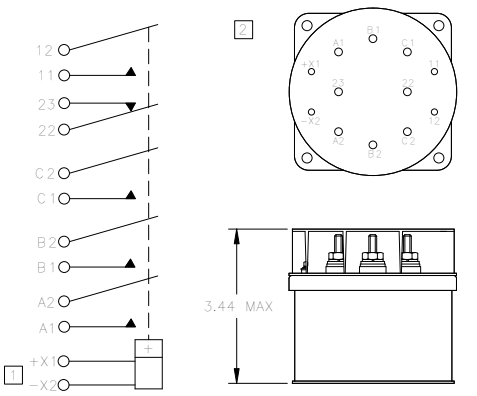
TERMINAL TYPE 1
3 PDT



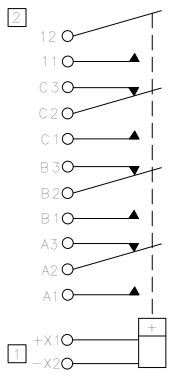
TERMINAL TYPE 2
3 PST-N.O.



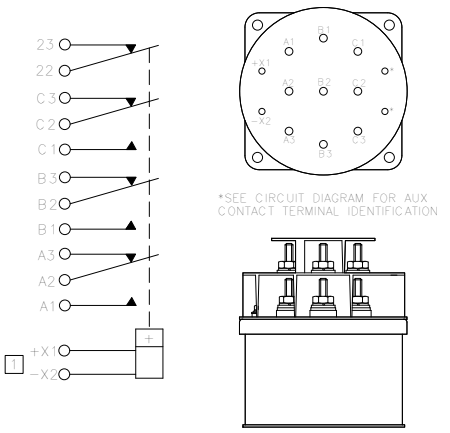
TERMINAL TYPE 3
3 PST-N.O. WITH
SPST-N.O. & SPST-N.C.
AUXILIARY CONTACTS



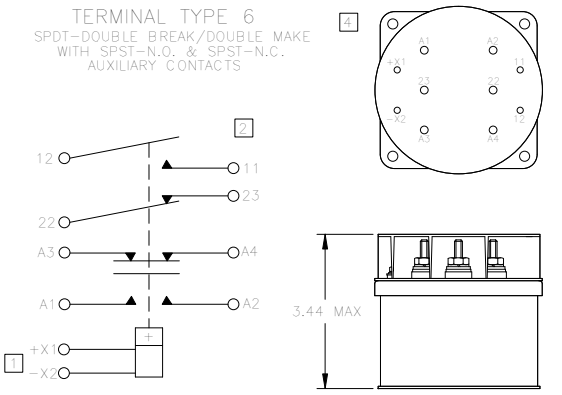
TERMINAL TYPE 4
3 PDT WITH SPST-N.O.
AUXILIARY CONTACTS



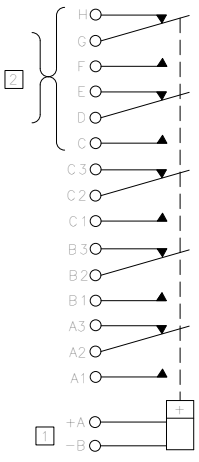
TERMINAL TYPE 5
3 PDT WITH SPST-N.C.
AUXILIARY CONTACTS



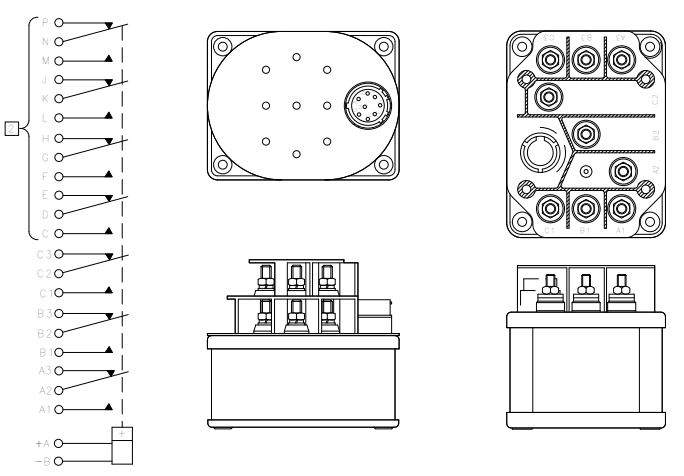
TERMINAL TYPE 6
SPDT-DOUBLE BREAK/DOUBLE MAKE
WITH SPST-N.O. & SPST-N.C.
AUXILIARY CONTACTS



TERMINAL TYPE 7
3 PDT WITH 2 PDT
AUXILIARY CONTACTS



TERMINAL TYPE 8
3 PDT WITH 4 PDT
AUXILIARY CONTACTS



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

OTHER AUXILIARY CONTACT FORMS AVAILABLE, INCLUDING LOW LEVEL CAPACITY

3 AVAILABLE IN "A" AND "H" MOUNTING

4 AVAILABLE IN "A" AND "B" MOUNTING

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.