

APPLICATION NOTES:

101
102
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, and
115/200Vac, 400Hz, 3 Ø

Weight 4.50 lb max

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
Resistive	125	275	275
Inductive [2]	75	275	275
Repture	75	175	175

COIL CHARACTERISTICS (Vdc)

CODE	A Vdc	F Vac 400Hz	N [5] Vdc	Y [6] Vdc	YN [6][5] Vdc
Nominal operating voltage	28	115	28	28	28
Maximum operating voltage	29	124	29	29	29
Pick-up voltage, maximum					
- Nominal	18	90	18	18	18
- High temp test	20	95	20	20	20
- Continuous current test	22.5	100	22.5	22.5	22.5
Drop-out voltage, maximum	7	45	7	7	7
Coil resistance in Ohms $\pm 10\%$ at +25° C	72	-	72	8/90	8/90
Coil current max. @ nom. Volt.and +25° C	-	.15 Amp	-	-	-

GENERAL CHARACTERISTICS

Temperature range	-55°C to 85°C
Minimum operating cycles (life) at rated 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	1,500 Vrms
Coil to ground and aux. contacts	1,250 Vrms
Dielectric strength at altitude:	
Main contacts	700 Vrms
Coil and aux. contacts	500 Vrms
Insulation resistance	
Initial (500 Vdc)	100 M Ω min
After environmental tests (500 Vdc)	50 M Ω min
Sinusoidal vibration	10G / 60 to 2000 Hz
Shock (10-12 ms duration)	20G
Maximum contact opening time under vibration and shock	10 μ s
Operate time at nominal voltage (Including bounce)	60 ms max
Operate time at nominal voltage (Including bounce) Economizer coil	25 ms max
Release time at nominal voltage (Including bounce)	
DC	40 ms max [7]
AC	125 ms max

GENERAL CHARACTERISTICS CONTINUED

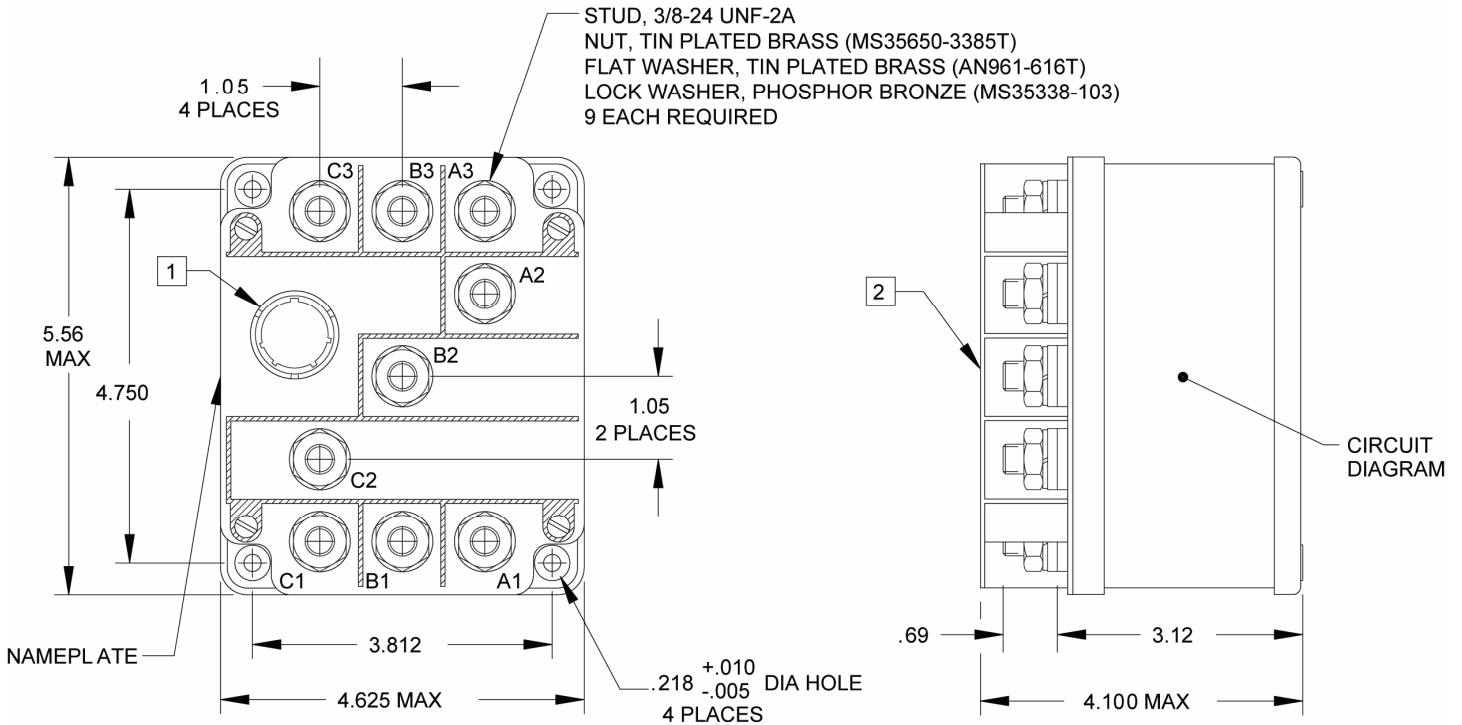
Release time at nominal voltage (Including bounce) Economizer coil

DC	25 ms max [7]
AC	100 ms max
Contact bounce at nominal voltage	4 ms max
Weight	4.50 lb max
Overload - 115/200 Vac, 400Hz	1,375 Amperes
Rupture - 115/200 Vac, 400Hz	1,925 Amperes
Altitude	80,000 ft.

CONFIGURATION STYLES

MOUNTING STYLE A

Dimensions in inches
Tolerances, unless otherwise specified
XX ± 0.03 in
XXX ± .010 in



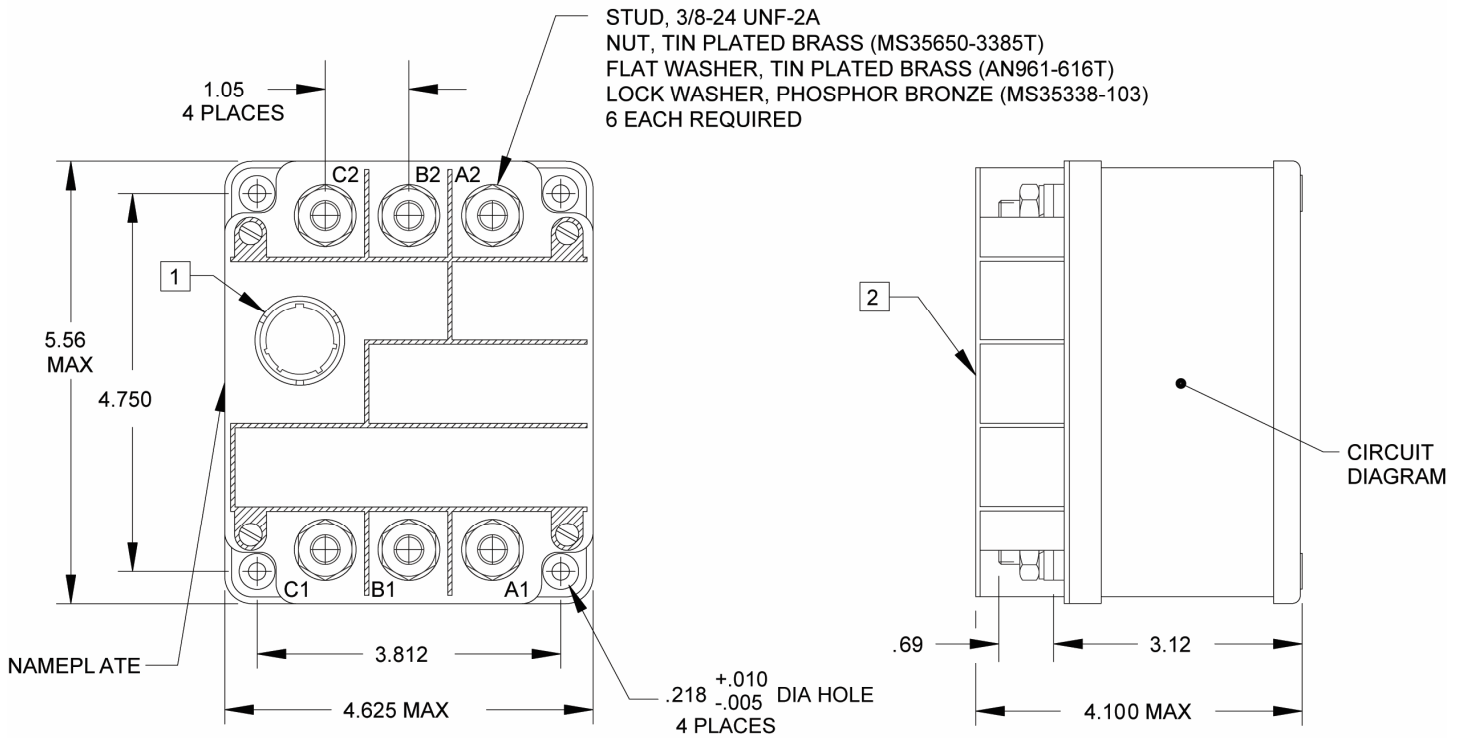
[1] CIRCULAR CONNECTOR MS-STYLE OR EQUIVALENT

[2] TERMINAL BARRIER (SHOWN WITHOUT COVER IN
TOP VIEW, FOR CLARITY).

CONFIGURATION STYLES

MOUNTING STYLE B

Dimensions in inches
Tolerances, unless otherwise specified
XX ± 0.03 in
XXX ± .010 in



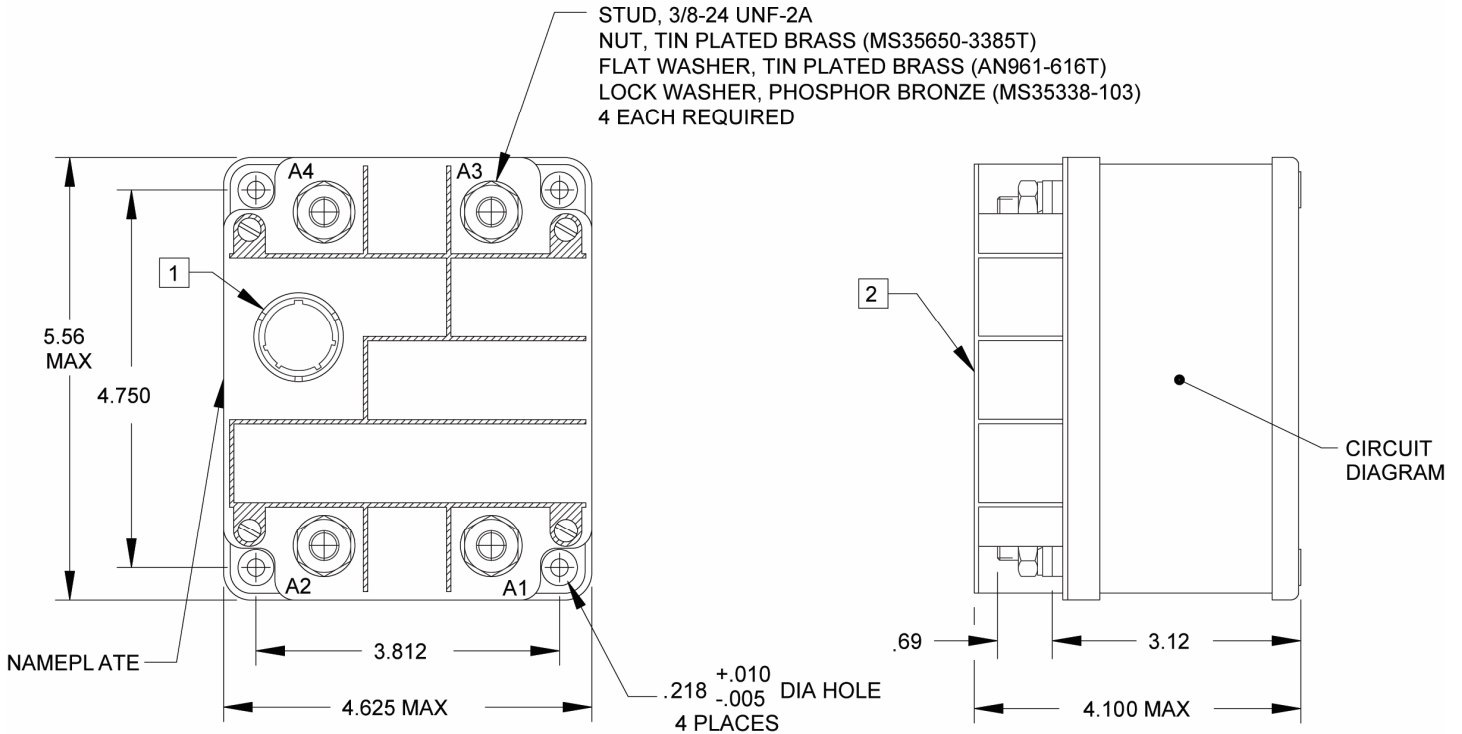
[1] CIRCULAR CONNECTOR MS-STYLE OR EQUIVALENT

[2] TERMINAL BARRIER (SHOWN WITHOUT COVER IN
TOP VIEW, FOR CLARITY).

CONFIGURATION STYLES

MOUNTING STYLE C

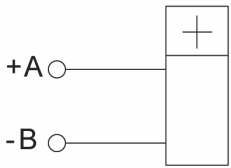
Dimensions in inches
Tolerances, unless otherwise specified
XX ± 0.03 in
XXX ± .010 in



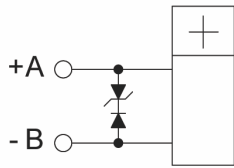
- [1] CIRCULAR CONNECTOR MS-STYLE OR EQUIVALENT
- [2] TERMINAL BARRIER (SHOWN WITHOUT COVER IN TOP VIEW, FOR CLARITY).

CIRCUIT DIAGRAMS

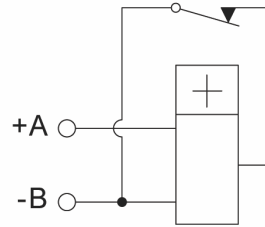
COIL CIRCUIT CONFIGURATION



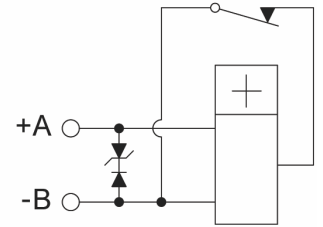
STANDARD
"A & F" COIL



STANDARD
WITH
COIL SUPPRESSION
"N" COIL



ECONOMIZER COIL
"Y" COIL

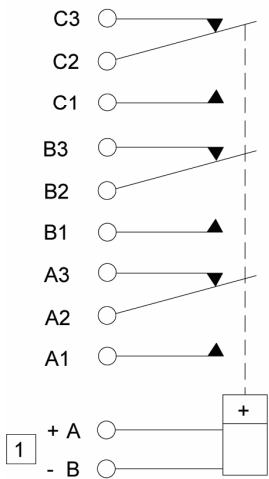


ECONOMIZER COIL
WITH
COIL SUPPRESSION
"YN" COIL

TERMINAL CONFIGURATION AND CIRCUIT DIAGRAMS

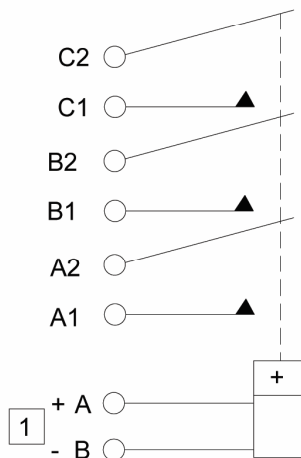
TERMINAL TYPE 1

3 PDT



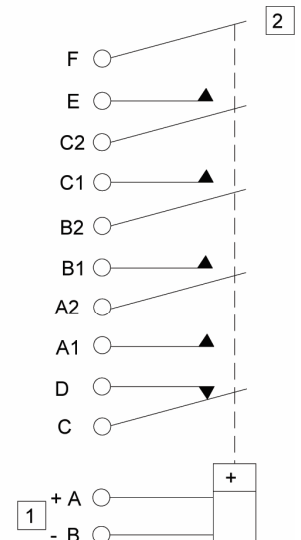
TERMINAL TYPE 2

3 PST-N.O.



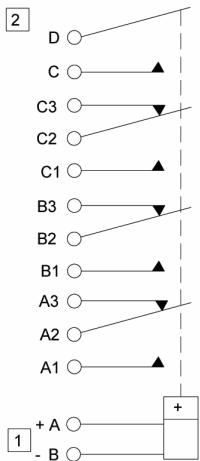
TERMINAL TYPE 3

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

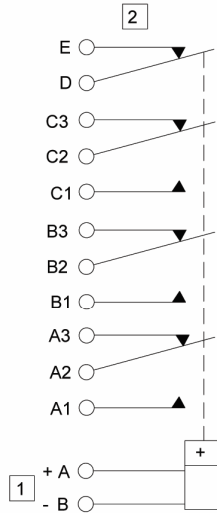


TERMINAL CONFIGURATION AND CIRCUIT DIAGRAMS (Continued)

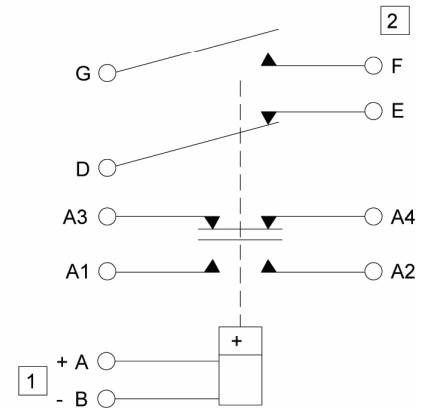
TERMINAL TYPE 4
3 PDT WITH SPST-N.O.
AUXILIARY CONTACTS



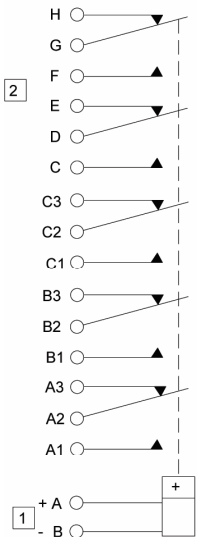
TERMINAL TYPE 5
3 PDT WITH PST-N.C.
AUXILIARY CONTACTS



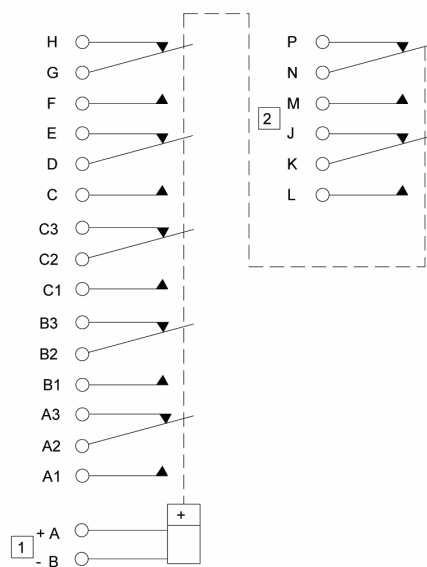
TERMINAL TYPE 6
SPDT-DOUBLE BREAK/MAKE WITH
SPST-N.O. & SPST-N.C.
AUXILIARY CONTACTS



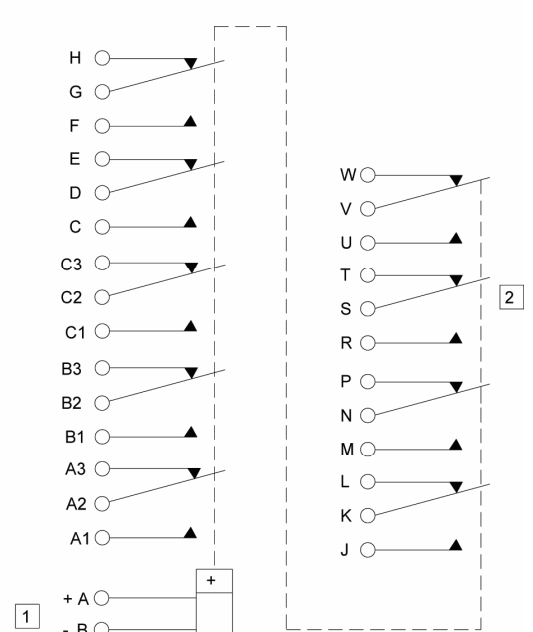
TERMINAL TYPE 7
3 PDT WITH 2 PDT
AUXILIARY CONTACTS



TERMINAL TYPE 8
3 PDT WITH 4 PDT
AUXILIARY CONTACTS



TERMINAL TYPE 10
3 PDT WITH 6 PDT
AUXILIARY CONTACTS



TERMINAL CONFIGURATION AND CIRCUIT DIAGRAMS (Continued)

TERMINAL TYPE 9

IS A GENERAL CATAGORY 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: **8 AMP**

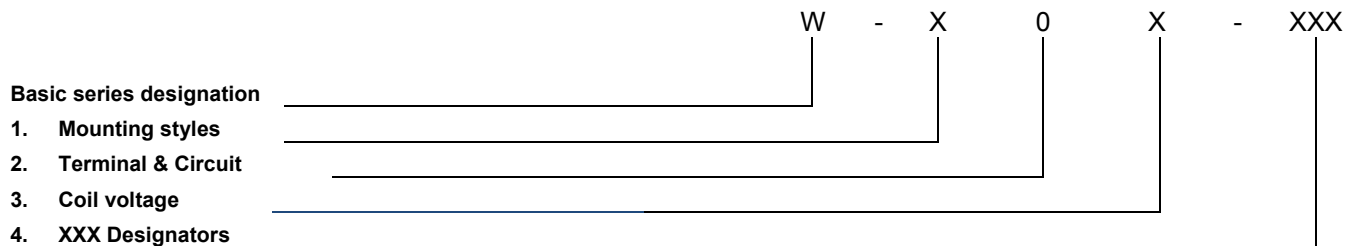
INDUCTIVE: **5 AMP**

LAMP: **3 AMP**

BOUNCE AT NOMINAL VOLTAGE: **.004 SEC MAX**

OTHER AUXILIARY CONTACT FORMS AVAILABLE, INCLUDING LOW LEVEL CAPACITY

NUMBERING SYSTEM



NOTES

1. Auxiliary contact rating - see page 9, note [2].
2. Inductive load life, 20,000 cycles.
3. Alternate contact configurations and other special models available upon request. Please contact factory.
4. Terminal strength per para. 3.4.8.2.1 of MIL-R-6106.
5. Back EMF suppression to 62 volts max.
6. 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.
7. Greater values for suppressed coils.
8. This series drawing is for general use only. Please consult factory for special requirements.

For any inquiries, please contact your local sales representative: leachcorp.com