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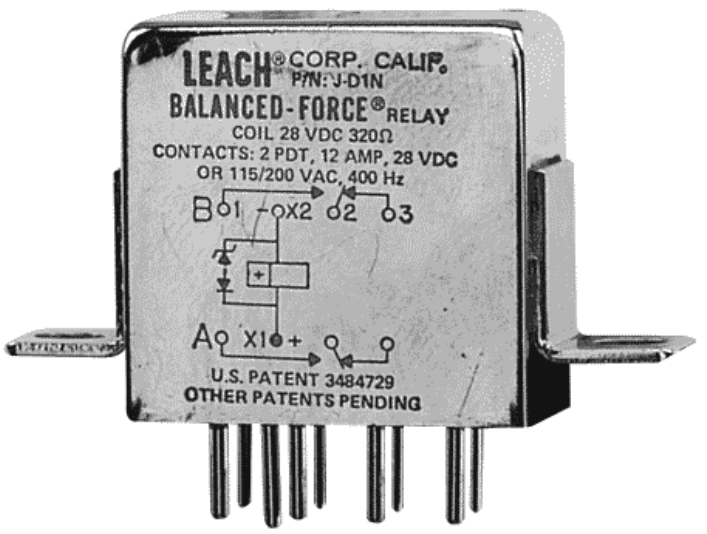
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Find the *Esterline / Leach J-D4A-017* at our website: ***Click HERE***

ENGINEERING DATA SHEET

SERIES J

RELAY - NONLATCH
2 PDT, 12 AMPS



APPLICATION NOTES:
023

APPLICABLE SOCKET:
SO-1049-8309/8987
SO-SSL

All welded construction

Contact arrangement	**2 PDT**
Qualified at 10 Amps to	**MIL-PRF-83536**

PRINCIPLE TECHNICAL CHARACTERISTICS

Contacts rated at	**28 Vdc; 115 Vac, 400 Hz, 1 phase and 115/200 Vac, 400 Hz, 3 phases**
Weight	**0.088lb max**
Dimensions of case	**1.01in x .51in x 1.00in**

Special models available upon request.
Hermetically sealed, corrosion resistant metal can.

Contact factory for information on MIL-qualified part numbers.

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	12	12	12	2.5
Inductive [3]	8	8	8	2.5
Motor	4	4	4	2
Lamp	2	2	2	-
Overload	40	60	60	N/A
Rupture	50	80	80	N/A

Esterline Power Systems

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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 J

CODE	A	B	C	M	N [4]	R [4]	V [4]
Nominal operating voltage	28	12	6	48	28	12	6
Maximum operating voltage	29	14.5	7.3	50	29	14.5	7.3
Maximum pickup voltage							
- Cold coil at +125° C	18	9	4.5	36	18	9	4.5
- During high temp test at +125° C	19.8	9.9	5	38	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
Maximum drop-out voltage	7	4.5	2.5	14	7	4.5	2.5
Coil resistance Ω ±10% at +25° C, except types "C" and "V" +20%, -10%	320	80	20	1000	320	80	20

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
Dielectric Strength at sea level - Coil to ground	1000 Vrms
Dielectric Strength at altitude 80,000 ft	500 Vrms [5]
Insulation resistance - Initial (500 Vdc)	100 M Ω min
Insulation resistance - After environmental tests (500 Vdc)	50 M Ω min
Sinusoidal vibrations (A, D and J mounting)	0.12DA / 10 to 70 Hz 30 g / 70 to 3000 Hz
Sinusoidal vibrations (G mounting)	0.12DA / 10 to 57 Hz 20g /57 to 3000 Hz
Random vibrations	
- Applicable specification	MIL-STD-202
- Method	214
- Test condition - A, D and J Mounting	1G ($0.4g^2$/Hz, 50 to 2000 Hz)
- Test condition - G Mounting (E in Track)	1E ($0.2g^2$/Hz, 50 to 2000 Hz)
- Duration	15 minutes each plane
Shocks (A, D and J mounting)	200 g / 6 ms
Shocks (G mounting)	100 g / 6 ms
Maximum contact opening time under vibrations and shocks	10 µs
Operate time at nominal voltage@25°C	10 ms max
Release time at nominal voltage@25°C	10 ms max
Contact make bounce at nominal voltage@25°C	1 ms max
Contact release break bounce at nominal voltage@25°C	0.1 ms max [6]
Weight maximum	0.088lb

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

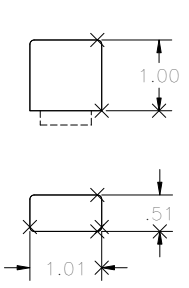
NOTES

[1] Standard Intermediate current test applicable.
[2] 60 Hz load life, 10,000 cycles.
[3] Inductive load life, 20,000 cycles.
[4] "N" R & V coils have back EMF suppression to 42 volts maximum.
[5] 500 Vrms with silicone gasket compressed, 350 Vrms all other conditions.
[6] Applicable to suppressed coils only.
7. Applicable military specification: MIL-PRF-83536.
8. Special models available: Dry circuit, established reliability testing, etc.
9. Time current relay characteristics per MIL-PRF-83536.
10. Relay will not operate, but will not be damaged by application of reverse polarity to coil.

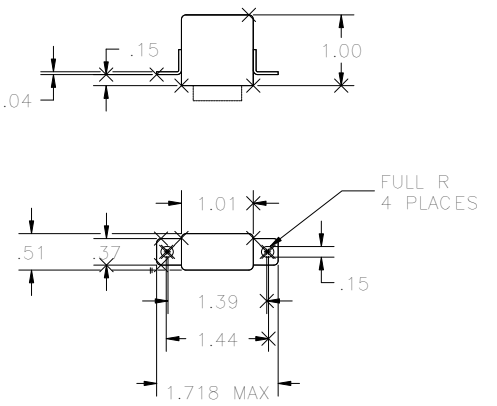
NUMBERING SYSTEM

```
                                                    J -   A   1   A
Basic series designation_____________________________|     |   |   |
1-Mounting Style (A,D,G,J)___________________________________|   |   |
2-Terminal Types (1,2,4)_____________________________________________|   |
3-Coil Voltage see coil characteristics (A,B,C,M,N,R or V)_____________|
```

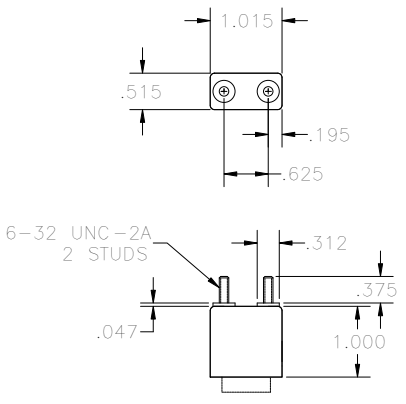
MOUNTING STYLES



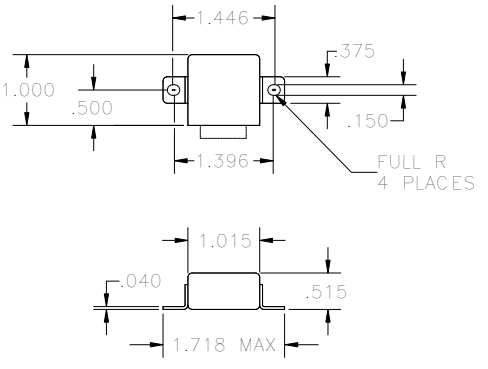
MOUNTING STYLE A



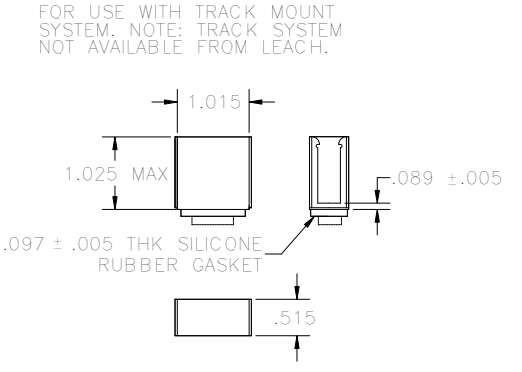
MOUNTING STYLE D



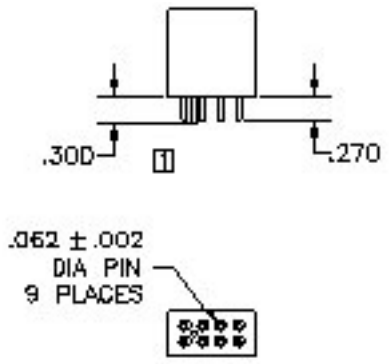
MOUNTING STYLE G



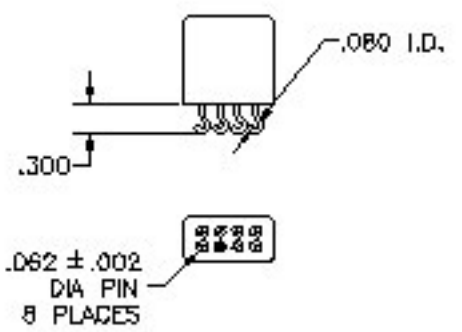
MOUNTING STYLE J



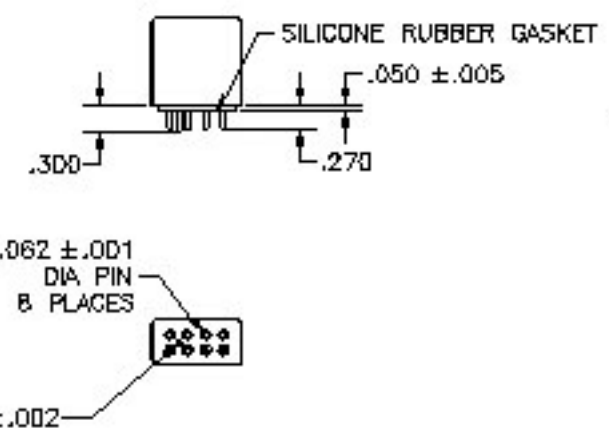
MOUNTING STYLE W



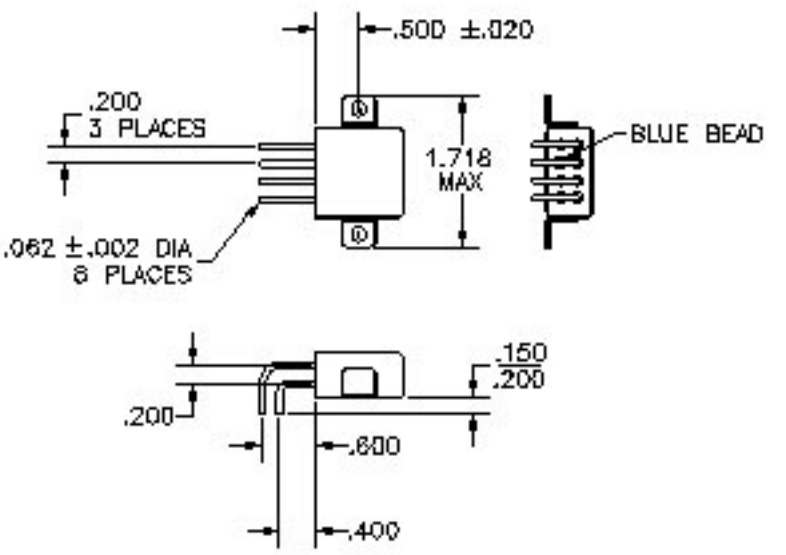
TERMINAL TYPE 1
FINISH: TIN/LEAD PLATE



TERMINAL TYPE 2
FINISH: TIN/LEAD PLATE



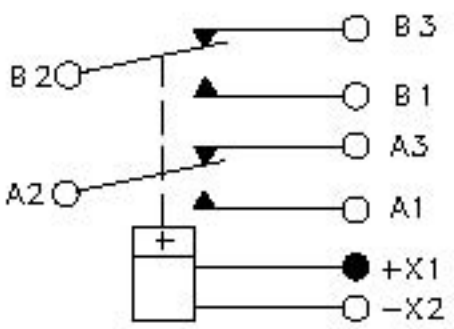
TERMINAL TYPE 4
FINISH:
CASE: TIN/LEAD PLATE
TERMINALS: GOLD PLATE
POLARIZING PIN: TIN/LEAD PLATE



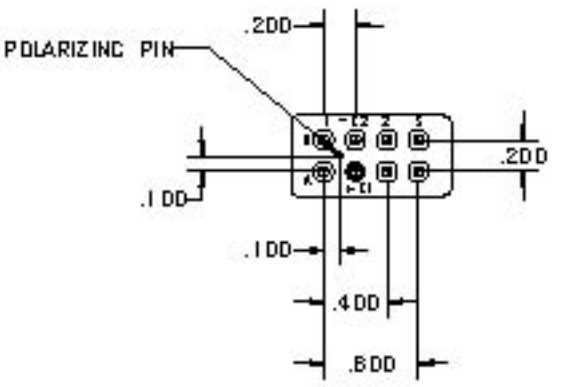
TERMINAL TYPE 7
FINISH: TIN/LEAD PLATE

Standard Tolerance: ± .010 1. Insulator P/N RC-RP800060-5 or RC-RP920060-1 available from Cornucopia Plastics, Paso Robles, CA.

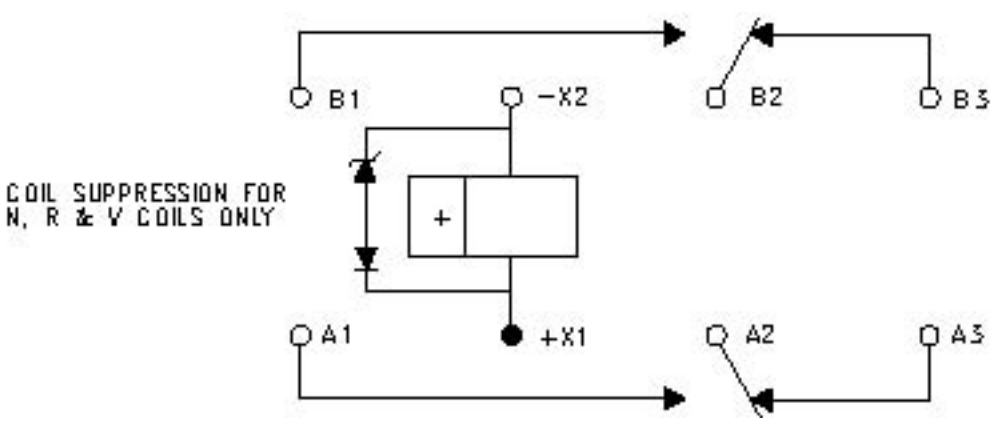
SCHEMATIC DIAGRAM



STANDARD TERMINAL LAYOUT



WIRING DIAGRAM

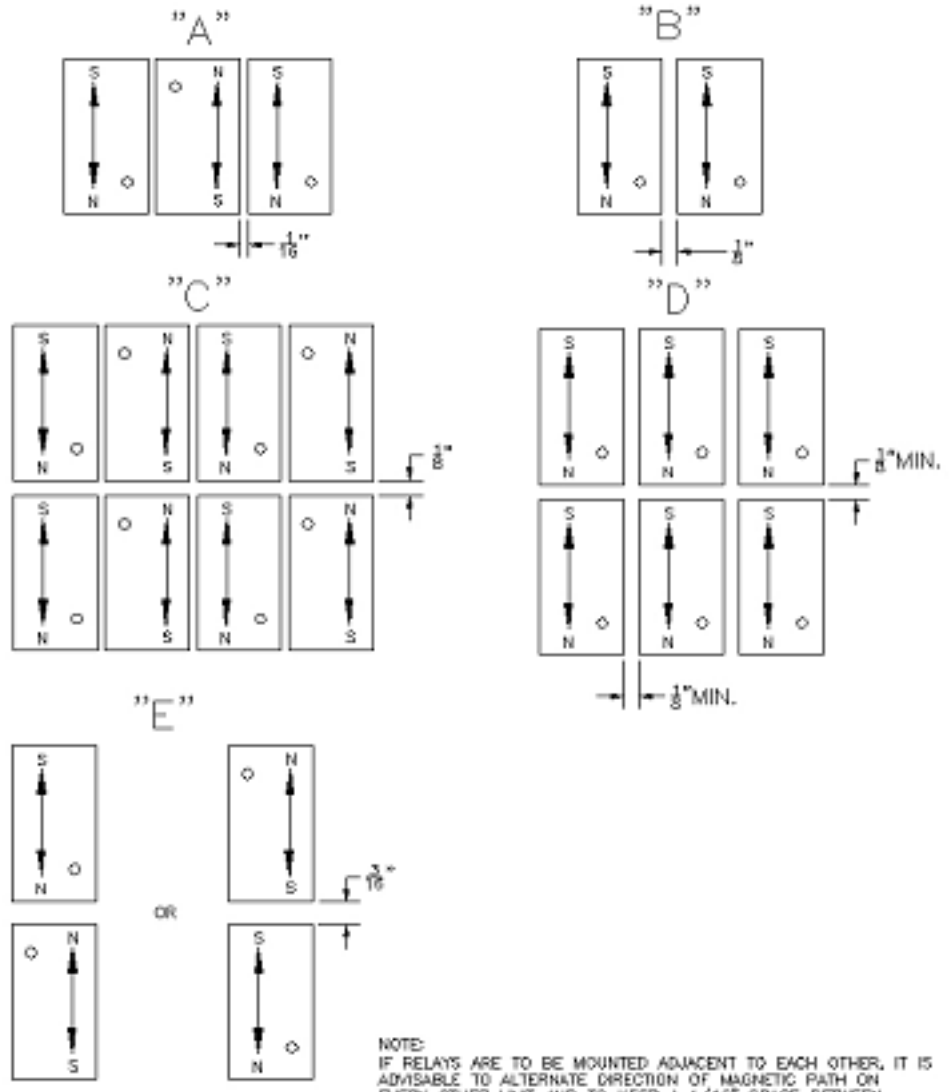


STANDARD TOL: ±.010

MOUNTING DISTANCE BETWEEN RELAYS
Applicable to XL, X, XA, XCL, XC, YL, Y, YA, YCL, YC, YCA, JS/JSA, JA, JL, J, KA, KL, K

Definition and applicability
This application note defines the minimum distance between relays to insure relay performance as specified in our data sheets.

Phenomenon analysis
Each relay generates a magnetic field either when the relay is de-energized because of the permanent magnet or in the energized position because of permanent magnet and coil. The magnetic field generated by one relay could affect the performance of another relay when the below minimum distance between relays is not respected. If the relays are mounted adjacent to each other, it is advisable to alternate direction of magnetic path on every other unit and to keep a 1/16-inch space between relays (figure “A”). Or when mounted in the same direction, separate each relay from the other by 1/8 inch (figure “B”). If two or more rows of relays are installed, allow clearance of 1/8 inch between rows, (figures “C” and “D”). Provide 3/16-inch space between relays if used in opposition (figure “E”).



ENGINEERING DATA SHEET

SO-1049-8309/8987

RELAY SOCKET
12 AMP



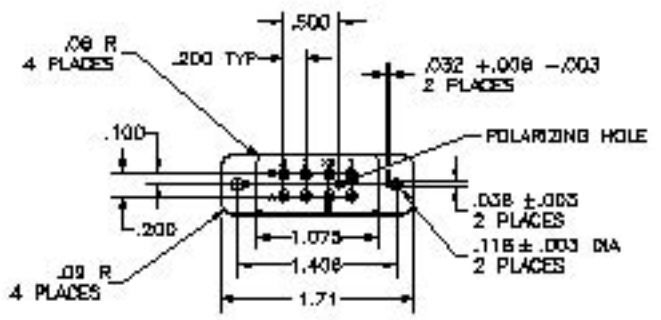
BASIC SOCKET SERIES DESIGNATION FOR:

Series J

MEETS THE REQUIREMENTS OF:

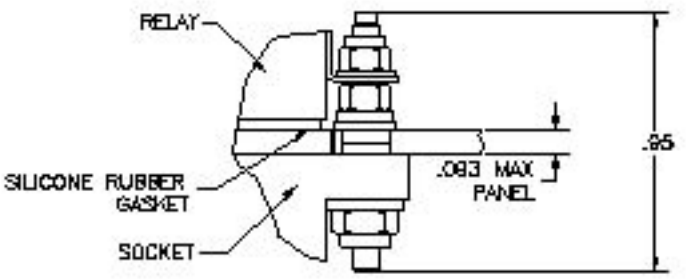
MIL-DTL-12883

SOCKET DRAWING

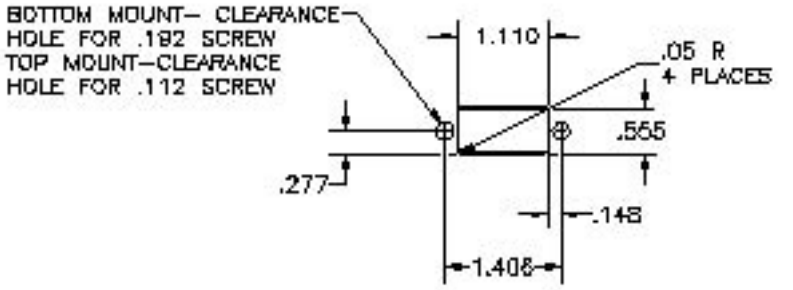


HARDWARE MOUNTING

MOUNTING DETAIL



MOUNTING DIMENSIONS



GENERAL CHARACTERISTICS

1. Supplied with mounting hardware and No. 16 contacts, No. 16 crimp (see socket drawing illustration SO-1049-8309); No. 16 contacts, No. 20 crimp for SO-1049-8987 (not illustrated)	
2. Standard tolerances	.xx ±.01; xxx ±.005
3. Weight	.073 lb. max
4. Temperature range	-70° C to +125° C

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

ENGINEERING DATA SHEET

SO-SSL

SOCKET FOR 2 OR 4 POLE
10 AMP



2 POLE



4 POLE

SNAP AND LOCK SOCKET SERIES DESIGNATION FOR:

SERIES J, JA, K, KA, KL, TDX

MEETS THE REQUIREMENTS OF:

2-pole, 10A relays	**MIL-PRF-12883/41**
Mates with	**M83536, M83726 and MS27709**
4-pole, 10A relays	**MIL-PRF-12883/40**
Mates with	**M83536**

FEATURES

Low profile
Bottom panel mount
Snaps into panel
Other models available

MATERIALS

Socket body	**Polyetherimide per MIL-P-46184**
Grommet	**Silicone rubber per ZZ-R-765**
Hardware	**Stainless Steel**
Contacts	**Copper alloy, hard gold plated per MIL-G-45204**
Contact retainers	**Beryllium copper**

GENERAL CHARACTERISTICS

Insulation resistance	1000 M Ω min.
Dielectric withstanding voltage	1500 VRMS sea level; 500 VRMS at 80,000 ft
Weight	15.3g max.
Temperature range	-65°C to +125°C
Vibration	MIL-STD-202, Method 204, Test Condition G
Shock	MIL-STD-202, Method 213, Test Condition C

This socket is designed to snap and lock into a panel to reduce hardware requirement and mounting time. Contacts and hardware are provided disassembled in a plastic bag. Standard tolerances are .xx=±.01; .xxx= ±.005 unless otherwise noted.

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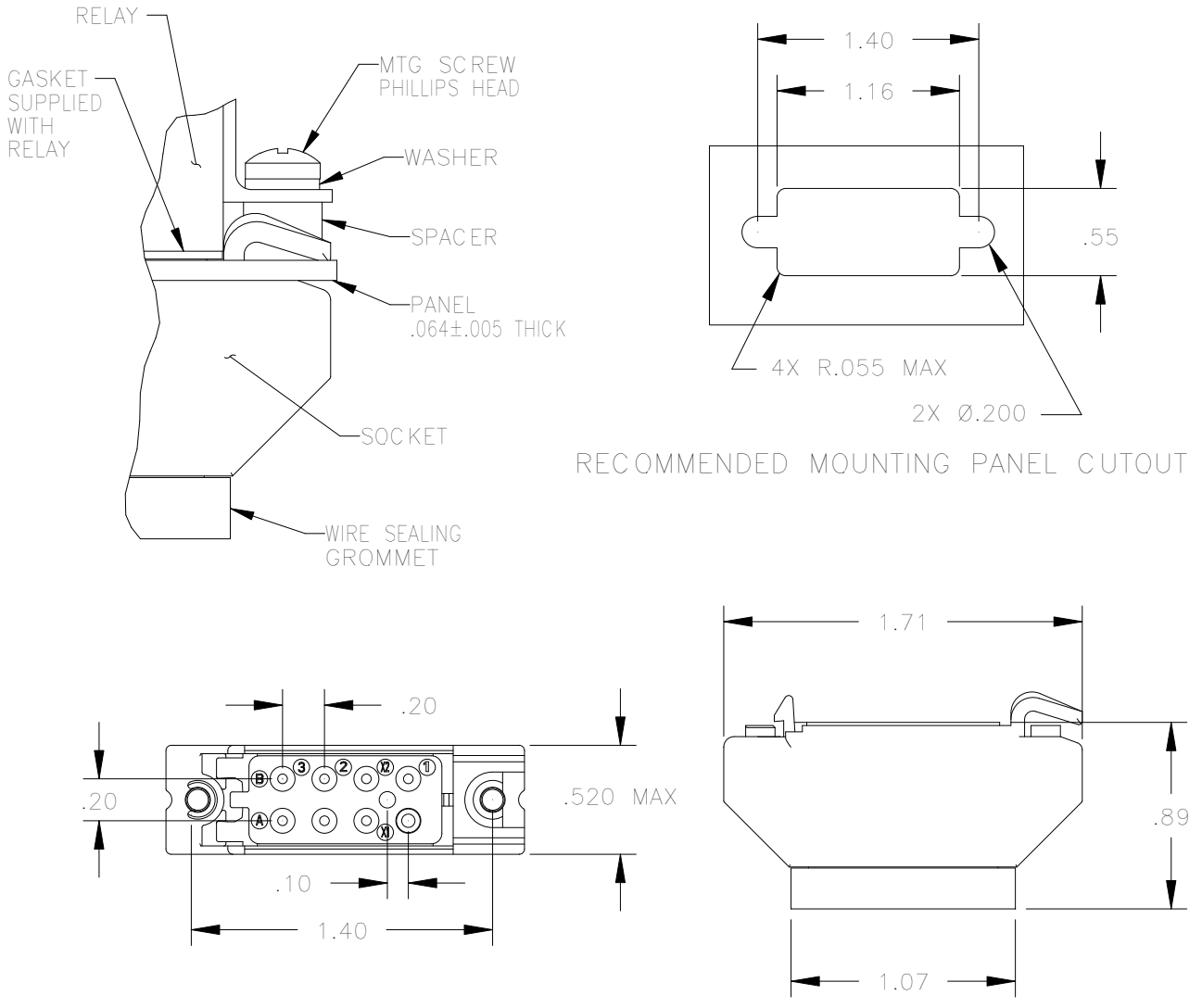
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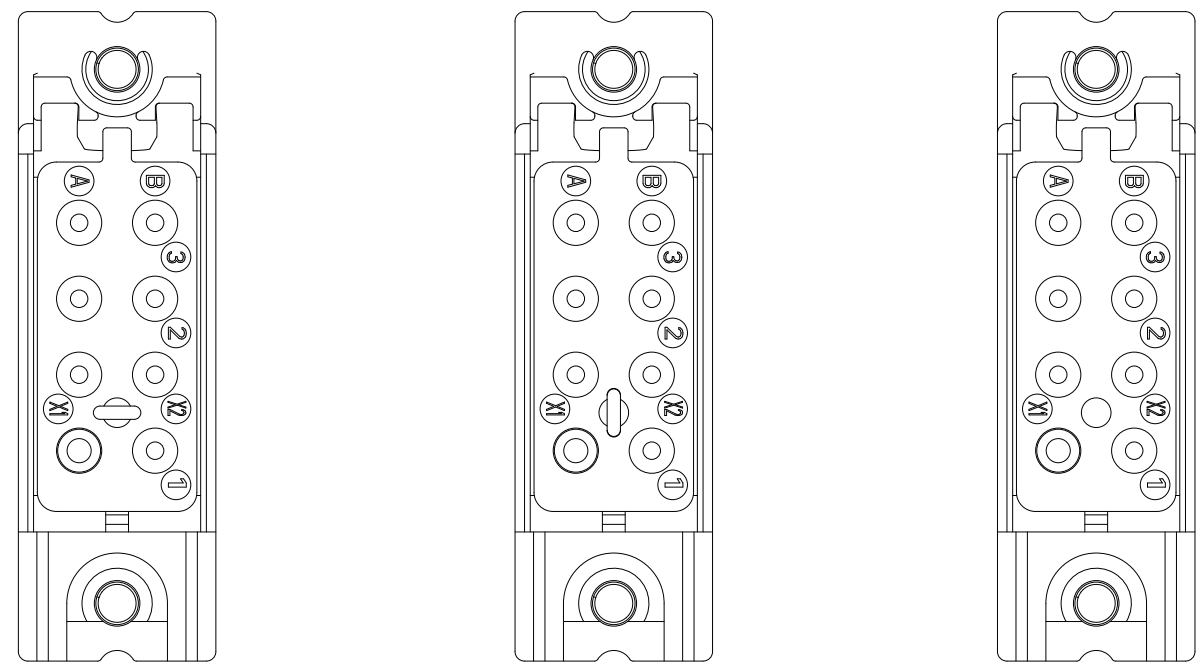
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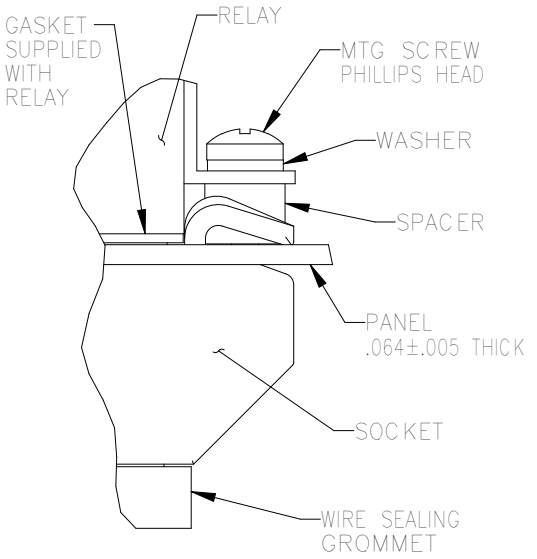
SOCKET DIMENSIONS

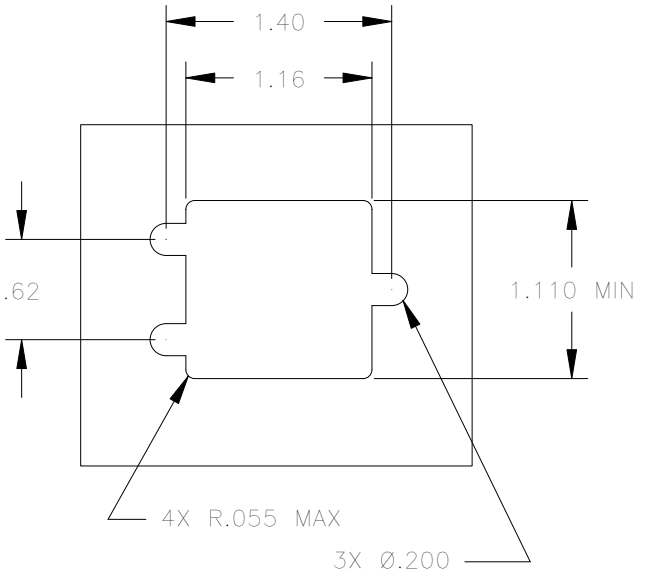
SO-SSL (2 POLE)



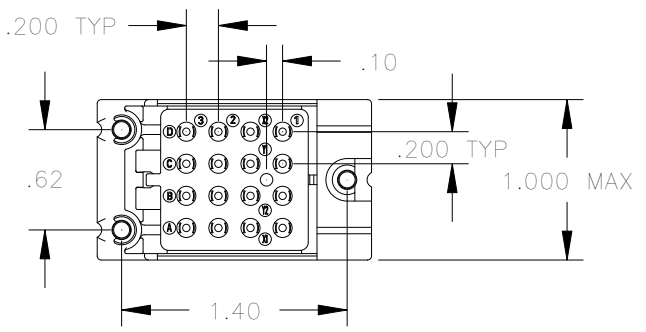
TERMINAL LAYOUT

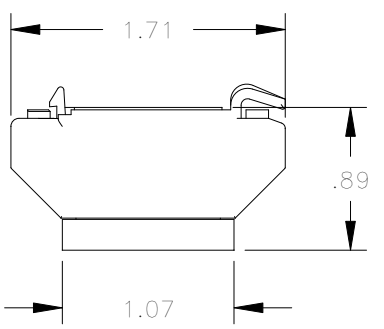




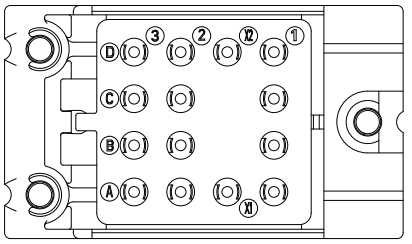


RECOMMENDED MOUNTING PANEL CUTOUT

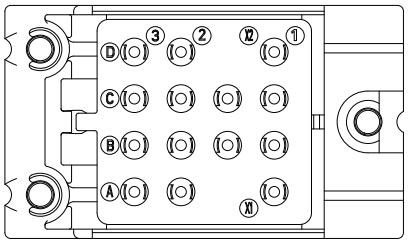




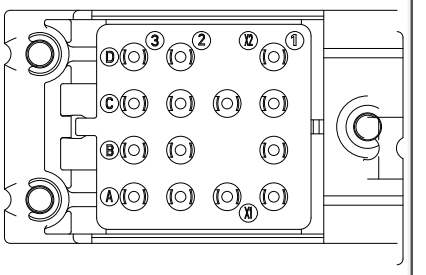
TERMINAL LAYOUT



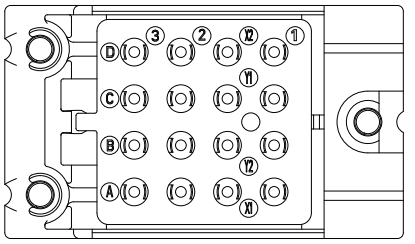
SO-SSL-K-1



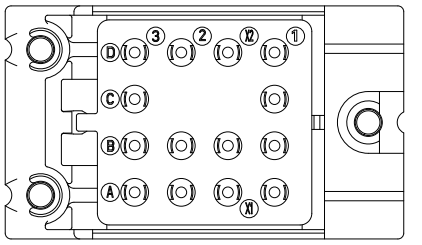
SO-SSL-KA-1



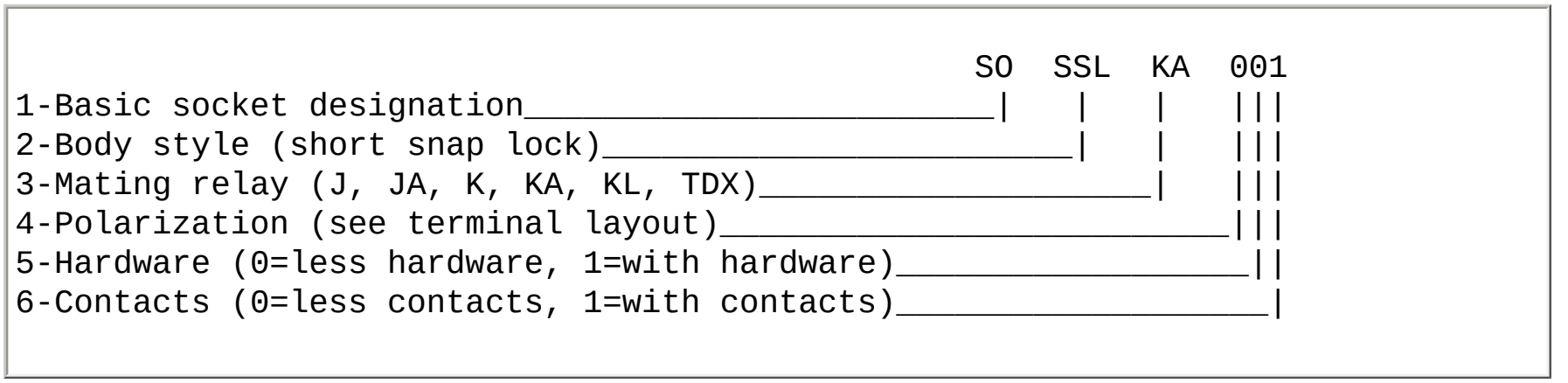
SO-SSL-KA-2



SO-SSL-KL-1



SO-SSL-TDX-1


SO SSL KA 001
1-Basic socket designation
2-Body style (short snap lock)
3-Mating relay (J, JA, K, KA, KL, TDX)
4-Polarization (see terminal layout)
5-Hardware (0=less hardware, 1=with hardware)
6-Contacts (0=less contacts, 1=with contacts)

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