



**Application Notes:**

101  
102  
103G  
007

• **Balanced-Force Design** hermetically sealed power contactor

• **Contact arrangement** SPST-N.O.

• **Meets the requirements of** MIL-PRF-6106

• **Qualified to** M6106/33

### PRINCIPLE TECHNICAL CHARACTERISTICS

• **Contacts rated at** 28 Vdc

• **Weight** 1.75lbs max

• **Auxiliary contact models available.**

**CAUTION :** The use of any coil voltage less than the rated coil voltage will compromise the operation of the contactor. Special units for low coil voltage applications are available. Consult factory.

### CONTACT ELECTRICAL CHARACTERISTICS

Contact rating – Amp per pole [1]	Main 28 Vdc	Auxiliary – DB/DM (Circuit No.4) 28Vdc or 155V/400 Hz	Auxiliary-SP (All circuits except No.4)
Resistive	400	5	-
Inductive [2]	150	5	5
Motor [6]	250	3	3
Lamp	-	1	1
Special motor load	[7]	N/A	N/A
Overload	2400	N/A	N/A
Rupture	3000	N/A	N/A

### COIL CHARACTERISTICS (Vdc)

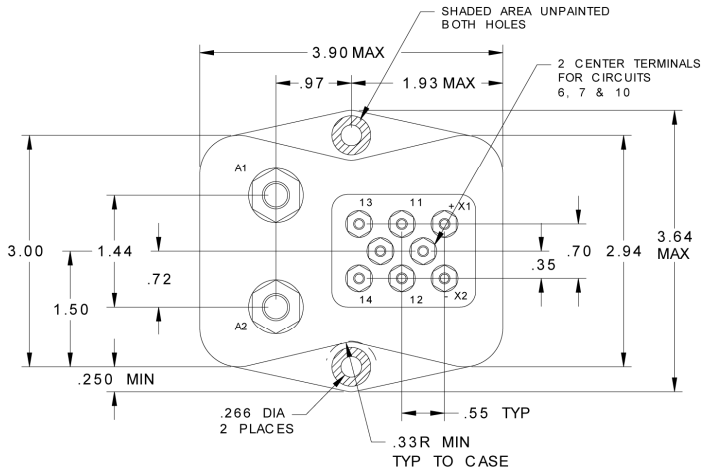
CODE	A Vdc	B Vdc	C Vdc	N,NA [5] Vdc
Nominal operating voltage	28	12	6	28
Maximum operating voltage	29	14.5	7.3	29
Maximum pickup voltage				
- Nominal at 71° C	18	9	4.5	18
- High temp test	19	9.8	5	19
- Cont. current test	21	10.5	5.3	21
Hold voltage	9	5.5	3.5	9
Drop-out voltage minimum	1.5	0.8	0.4	1.5
Coil resistance Ohms ±10% at +25° C	60	15	4	60

### GENERAL CHARACTERISTICS

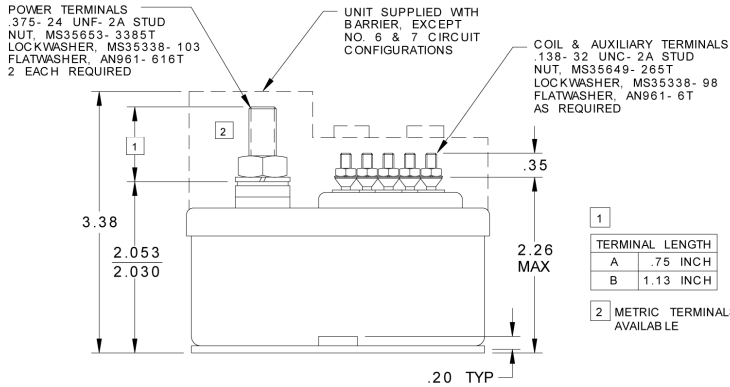
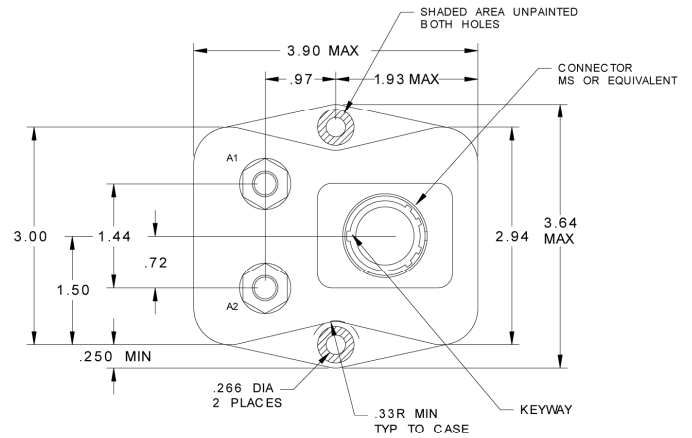
Temperature range	-55°C to +71°C
Minimum operating cycles (life) at rated load	50,000 [7]
Minimum operating cycles (life) at 25% rated load	100,000
<b>Dielectric strength at sea level</b>	
- All circuits to ground and circuit to circuit	1500 Vrms
- Across open contacts and coil to ground and auxiliary contacts	1250 Vrms
<b>Dielectric strength at altitude 50,000 ft</b>	
- Main contacts	700 Vrms
- Coil and auxiliary contacts	500 Vrms
Insulation resistance: (At 500 Vdc)	100 M Ω min
Sinusoidal vibration	10 G / 75 to 500 Hz 5 G / 500 to 2000 Hz
Shock	25G
Maximum contact opening time under vibration and shock	10 μs
Operate time at nominal voltage	35 ms max
Release time at nominal voltage	15 ms max
Contact bounce at nominal voltage	4 ms max

Dimensions in inches  
Tolerances, unless otherwise specified, XX ±.03; .XXX ±.010

## CONFIGURATION

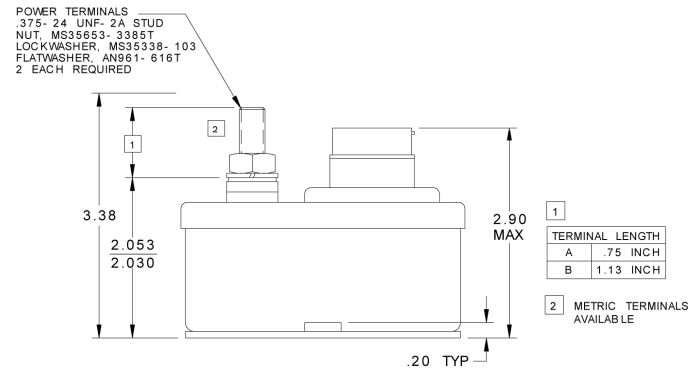


## Connector Version on Both Series A & Series AJ



TERMINAL LENGTH	
A	.75 INCH
B	1.13 INCH

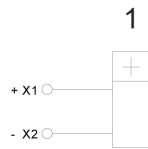
2 METRIC TERMINALS AVAILABLE



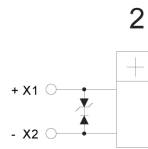
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2 METRIC TERMINALS AVAILABLE

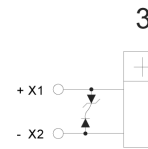
## COIL DIAGRAMS



STANDARD COIL  
"A" "B" "C"



SUPPRESSED COIL  
"N"  
28 VDC



SUPPRESSED COIL  
"NA"  
28 VDC  
FUSABLE LINK, RELAY WILL CONTINUE TO OPERATE SHOULD COIL SUPPRESSION BE IN A FAILURE MODE

TABLE 1- SPECIAL MOTOR LOAD

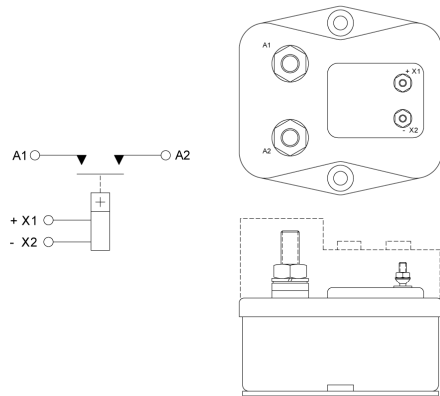
ELAPSED TIME SECONDS	STARTER CURRENT AMPERES
0 (INITIAL)	1200
1	1000
2	1000
3	900
4	800
5	700
6	600
7 TO 60	400

1 MUST BE ABLE TO MEET TABLE 1 REQUIREMENTS FOR THREE CYCLES WITH ONLY 10 SECONDS OFF BETWEEN CYCLES. AT THE END OF THREE CYCLES, OFF TIME WILL BE 5 MINUTES, MINIMUM.

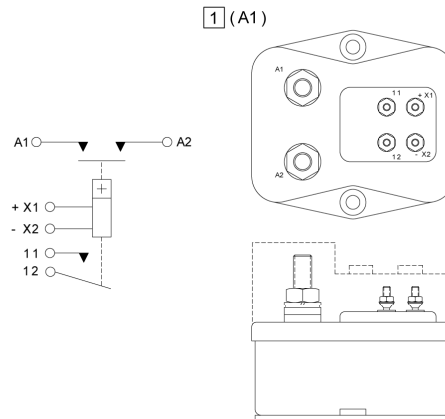
2 THE START CYCLE MAY BE ABORTED ANY TIME DURING THIS PERIOD.

## SCHEMATIC DIAGRAMS & TERMINAL CONFIGURATIONS

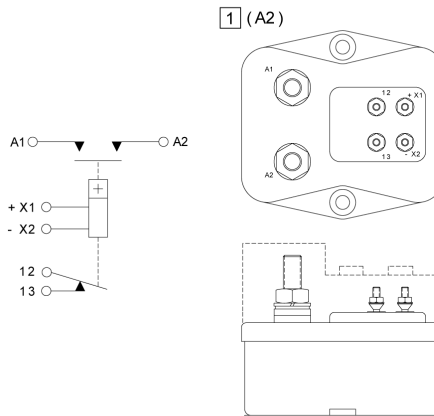
CIRCUIT DIAGRAM NO 1



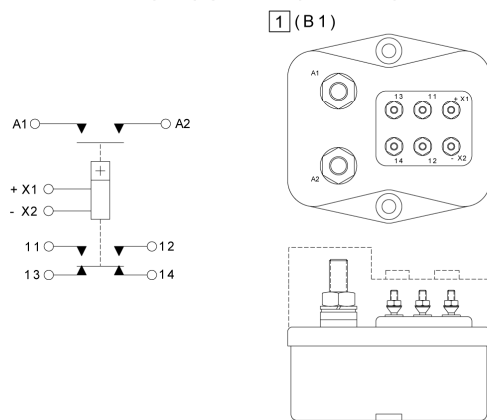
CIRCUIT DIAGRAM NO 2



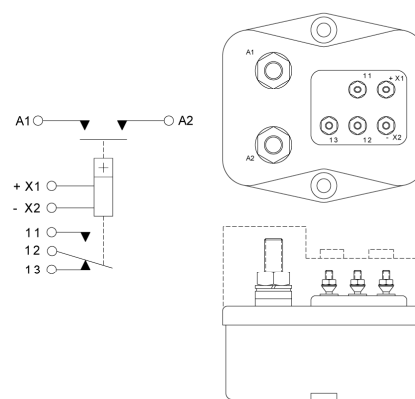
CIRCUIT DIAGRAM NO 3



CIRCUIT DIAGRAM NO 4

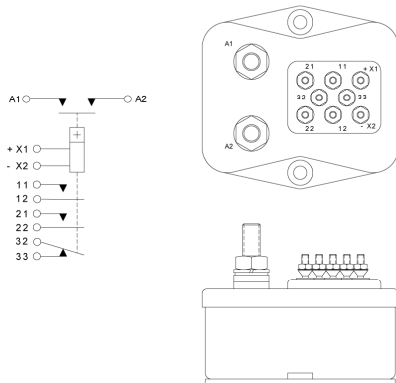


CIRCUIT DIAGRAM NO 5



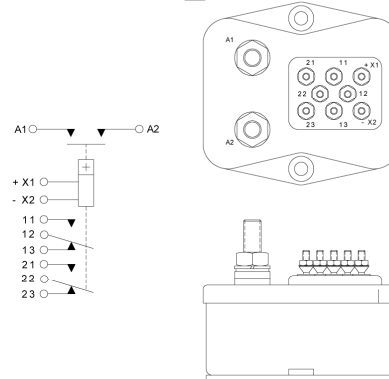
## SCHEMATIC DIAGRAMS & TERMINAL CONFIGURATIONS

CIRCUIT DIAGRAM NO 6



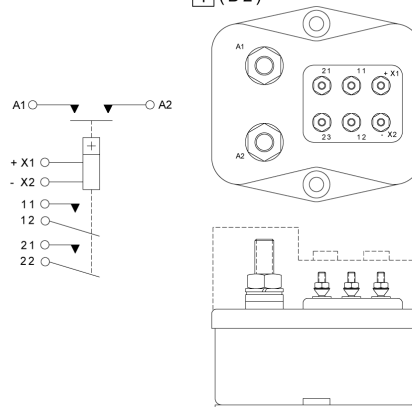
CIRCUIT DIAGRAM NO 7

[1] (C1)



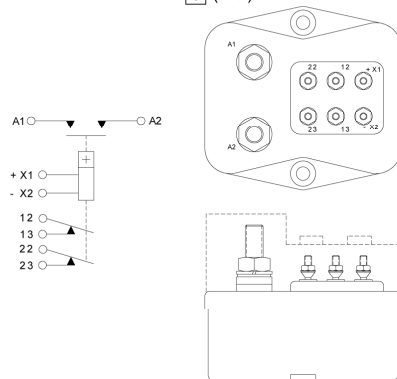
CIRCUIT DIAGRAM NO 8

[1] (B2)

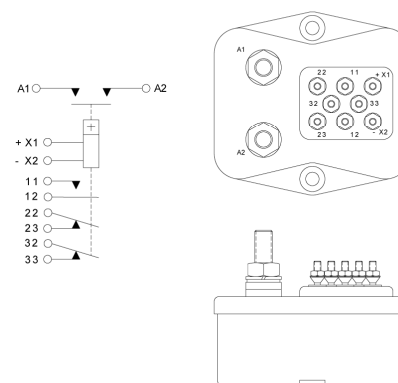


CIRCUIT DIAGRAM NO 9

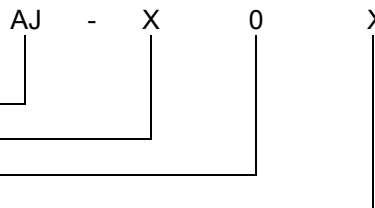
[1] (B3)



CIRCUIT DIAGRAM NO 10



## NUMBERING SYSTEM



Basic series designation

1. Terminal length/type (main and aux)
2. Circuits (No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10)
3. Coil voltage, see coil characteristics (A, B, C, N, and NA)

LEACH PART NUMBER	MIL- R6106/33 DASH NUMBER	COIL SUPPRESSION (BACK EMF)	CIRCUIT DIAGRAM	COIL DIAGRAM	COVER HEIGHT DIMENSIONS	TERMINAL LENGTHS
AJ-A4A-153	040	-	4	1	-	0.75
AJ-A4NA-154	041	Applicable	4	3	-	0.75
AJ-A4NA-155	042	Applicable	4	3	3.38	0.75
AJ-A4A-156	043	-	4	1	3.38	0.75
AJ-B8NA-157	044	Applicable	8	3	3.38	1.13
AJ-B8A-158	045	-	8	1	3.38	1.13
AJ-A2NA-159	046	Applicable	2	3	3.38	0.75
AJ-A3NA-160	047	Applicable	3	3	3.38	0.75
AJ-A2A-161	048	-	2	1	3.38	0.75
AJ-A3A-162	049	-	3	1	3.38	0.75
AJ-A8NA-163	050	Applicable	8	3	3.38	0.75
AJ-A8A-164	051	-	8	1	3.38	0.75
AJ-B9NA-165	052	Applicable	9	3	3.38	1.13
AJ-B9A-166	053	-	9	1	3.38	1.13
AJ-A9NA-167	054	Applicable	9	3	3.38	0.75
AJ-A9A-168	055	-	9	1	3.38	0.75
AJ-B7NA-169	056	Applicable	7	3	-	1.13
AJ-B7A-170	057	-	7	1	-	1.13
AJ-A7NA-171	058	Applicable	7	3	-	0.75
AJ-A7A-172	059	-	7	1	-	0.75
AJ-B8N-173	060	Applicable	8	2	3.38	1.13
AJ-B9N-174	061	Applicable	9	2	3.38	1.13
AJ-B7N-175	062	Applicable	7	2	-	1.13
AJ-A4N-176	063	Applicable	4	2	N/A	0.75
AJ-A4N-177	064	Applicable	4	2	3.38	0.75
AJ-B4A-178	065	-	4	1	3.38	1.13
AJ-B4NA-179	066	Applicable	4	3	3.38	1.13
AJ-B4N-180	067	Applicable	4	2	3.38	1.13
AJ-A8N-181	068	Applicable	8	2	3.38	0.75

AJ-A2N-182	069	Applicable	2	2	3.38	0.75
AJ-B2A-183	070	-	2	1	3.38	1.13
AJ-B2NA-184	071	Applicable	2	3	3.38	1.13
AJ-B2N-185	072	Applicable	2	2	3.38	1.13
AJ-A3N-186	073	Applicable	3	2	3.38	0.75
AJ-B3A-187	074	-	3	1	3.38	1.13
AJ-B3NA-188	075	Applicable	3	3	3.38	1.13
AJ-B3N-189	076	Applicable	3	2	3.38	1.13
AJ-A9N-190	077	Applicable	9	2	3.38	0.75
AJ-A7N-191	078	Applicable	7	2	-	0.75

## NOTES

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1. Standard Intermediate current test applicable
2. Inductive load life: 20,000 cycles.
3. Applicable military specification: MIL-R-6106.
4. Special models available upon request, please contact factory.
5. "N", "NA" coils have back EMF suppression to 42 volts maximum.
6. Off time for motor load test shall be 6 seconds maximum.
7. Must meet 20,000 cycles of special motor load test (engine start): see table 1, page 3.
8. Relay will not operate, nor will it be damaged by the application of reverse polarity.

For any inquiries, please contact your local sales representative: [leachcorp.com](http://leachcorp.com)