

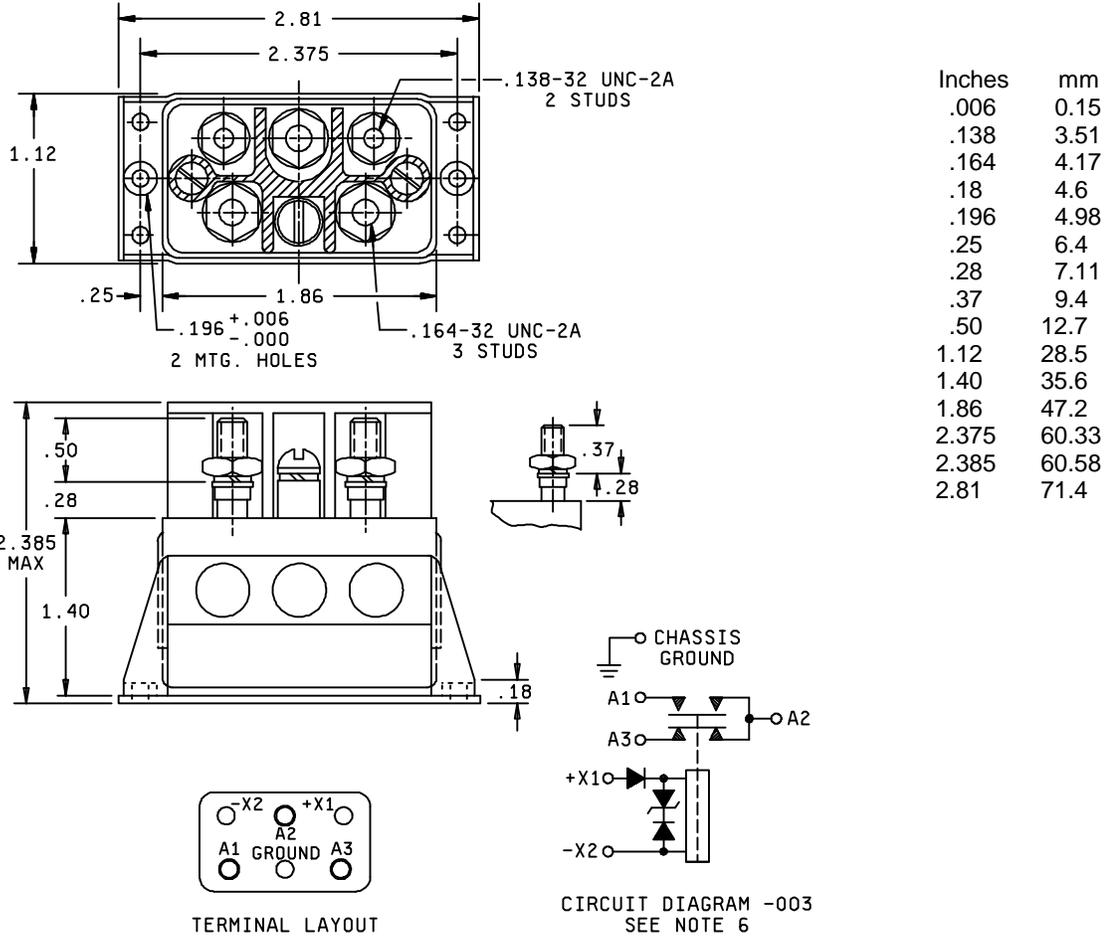
TERMINAL LAYOUT

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ± 0.03 (0.76 mm) for two place decimals and ± 0.010 (.25 mm) for three place decimals.
4. Terminal identification and locations designated by diagram on relay case.
5. Relay shall not operate or be damaged by reverse coil polarity.
6. Coil transient voltage limited to ± 42 volts referenced to zero volts.

FIGURE 1. Configurations and dimensions (-001 and -002) - Continued.

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NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are $\pm .03$ (.76 mm) for two place decimals and $\pm .010$ (.25 mm) for three place decimals.
4. Terminal identification and locations designated by diagram on relay case.
5. Relay shall not operate or be damaged by reverse coil polarity.
6. Coil transient voltage limited to ± 42 volts referenced to zero volts.

FIGURE 2. Configurations and dimensions (-003).

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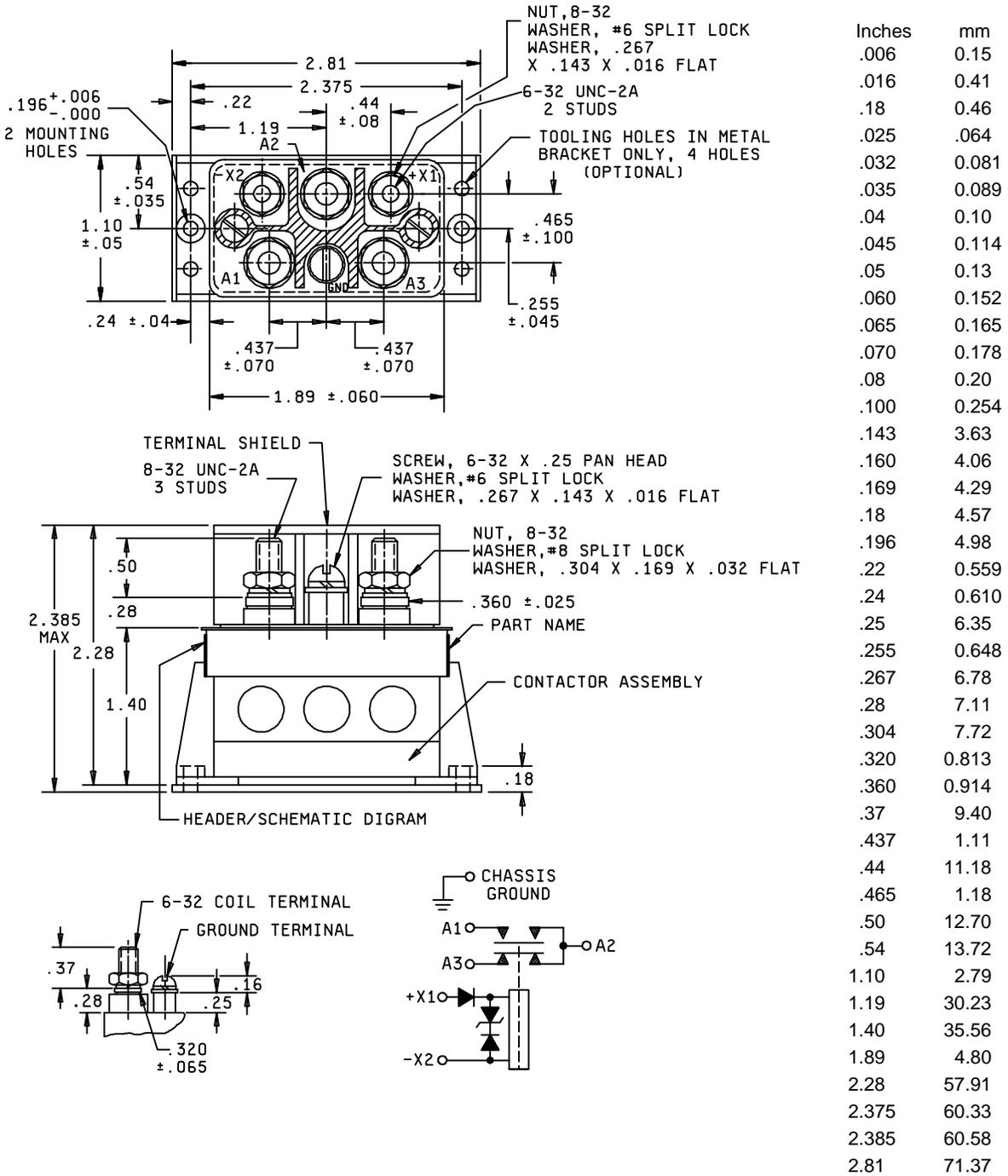


FIGURE 3. Configurations and dimensions (-004).

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are $\pm .03$ (0.76 mm) for two place decimals; $\pm .010$ (.25 mm) for three place decimals; and angles $\pm 0.5^\circ$.
4. Terminal identification and locations designated by diagram on relay case.
5. Internal contacts shall enable the product to meet the performance requirements of this specification and shall be approved by the qualifying activity. Preoxidized, silver cadmium oxide contacts have been considered acceptable.
6. Coil transient voltage is limited to ± 42 volts referenced to zero volts.
7. Case shall be electrically insulated from mounting surface.
8. Terminal flat and lock washer may be reversed for shipping purposes. Drawing shows proper installation sequence.

FIGURE 3. Configurations and dimensions (-004) - Continued.

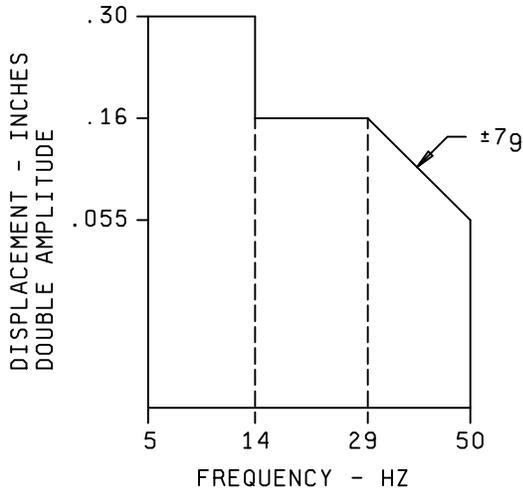


FIGURE 4. Sinusoidal vibration low frequency performance.

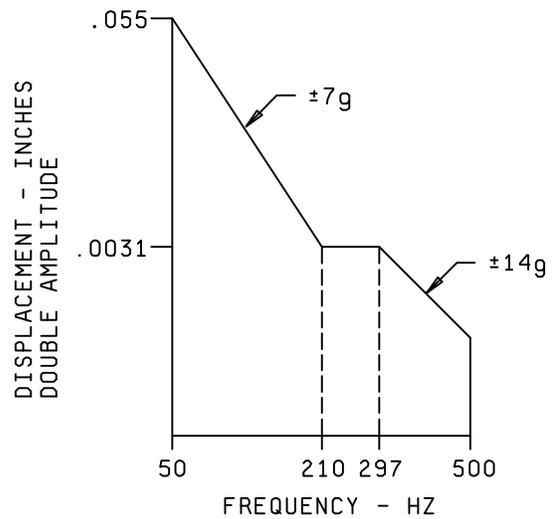


FIGURE 5. Sinusoidal vibration high frequency performance.

REQUIREMENTS

Dimensions and configurations: See figures 1 through 3.

Load ratings: See table I.

TABLE I. Rated contact load (amperes per pole) (case grounded thru 22 AWG wire).

Type of load	Life operating cycles X 10 ³		28 V dc			
	M6106/15 -001,-002, -003	M6106/15 -004	Main		Auxiliary	
			NO	NC	NO	NC
Resistive	50	55	50	50	---	---
Inductive	50	55	50	50	---	---
Motor	50	55	20	20	---	---
Lamp	50	55	20 ^{1/}	20 ^{1/}	---	---
Mechanical life, reduced current	100	110	12.5	12.5	---	---
Mixed loads	50	55	5	5	---	---

^{1/}M6106/15-004 lamp load requirement is 10 amperes.

Weight: .430 pound (195 grams) maximum for -001, -002, and -003.

.450 pound (204 grams) maximum for -004.

Temperature range: -70°C to +125°C.

Maximum altitude rating: 80,000 feet.

Shock g-level: 25 g.

Duration: 11 ms.

Maximum duration contact opening: 10 μs.

Vibration-sinusoidal (for -001, -002, and -003):

G-level: 15 g.

Frequency range: 10 to 2,000 Hz.

Acceleration (for -001, -002, and -003): 15 g.

Vibration-sinusoidal (for -004):

G-level: See figures 4 and 5.

Frequency range: 5 to 500 Hz (see figures 4 and 5).

Low frequency, performance: method 201A of MIL-STD-202, applicable, except the frequency range/sweep rate shall be logarithmic from 5-50-5 Hz in 7.5 minutes at levels of figure 4 herein. The total sweep time shall be 90 minutes per axis.

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High frequency, performance: method 204D of MIL-STD-202, test condition A applicable, except the frequency range/sweep rate shall be logarithmic from 50-500-50 Hz in 7.5 minutes at levels of figure 5 herein. The total sweep time shall be 30 minutes per axis.

Narrow band, performance: narrow band sweeps shall be conducted, $\pm 5\%$ about each center frequency of table II herein, at approximately the same sweep rate as high frequency herein are applicable for each axis.

TABLE II. Sinusoidal Vibration Test Schedule, Narrow Band Performance.

Center Frequencies for Narrow Band Sweeps	Test Time (Minutes)
67 HZ	7.50
100 HZ	7.50
135 HZ	7.50
200 HZ	15.00
267 HZ	7.50
300 HZ	7.50
335 HZ	7.50
400 HZ	15.00
467 HZ	7.50
500 HZ	7.50
Total Time Each Axis	90.00

Vibration-random (for -004): method 214A of MIL-STD-202.

Low level, performance: test condition ID applies for a total test time of 30 minutes per axis.

High level, non-performance: test condition IG applies for a total test time of 2 hours per axis.

High level, performance: test condition IJ applies except the test frequency shall be the 500 to 2000 Hz frequency band of the specified curve and rolloff of -9dB/OCT with an overall GRMS of 29.5. The total test time shall be 30 minutes per axis.

Strength of terminals and mounting studs: see MIL-PRF-6106.

Insulation resistance: 100 megohms.

Dielectric withstanding voltage (sea level):

All terminals (initial and after life tests): 1,050 V rms.

Dielectric withstanding voltage (altitude):

All terminals (initial and after life tests): 500 V rms.

Maximum contact voltage drop initial: 0.150 volt.

After life test: 0.175 volt.

Overload current: 400 amperes dc.

Rupture current: 500 amperes dc.

Duty rating: continuous.

Qualification by similarity: see MIL-PRF-6106.

Part number: M6106/15 (and a dash number from table III).

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For government logistical purposes use M6106/15-004 in lieu of the ST5M1629-002 and ST5M1629-003.

TABLE III. Dash number and operating characteristics.

Dash no.	Coil data								Time-milliseconds-max <u>5/</u>		
	Nominal voltage (V dc) <u>1/</u>	Max		Max pick-up voltage			Drop out voltage <u>3/ 4/</u>	Hold voltage <u>3/ 4/</u>	Operate	Release	Bounce
		V dc	Amp <u>2/</u>	Normal <u>3/ 4/</u>	High temp. test	Cont. current test					
-001	28	30	.114	18	20	20	1.5	7.0	25	25	2
-002	28	30	.114	18	20	20	1.5	7.0	25	25	2
-003	28	32	.120	18	20	20	1.5	7.0	50	40	2
-004	28	32	.120 <u>6/</u>	18	20	20	2.0	7.0	25 <u>4/</u>	40 <u>4/</u>	2 <u>4/</u>

1/ CAUTION: Use of any coil voltage less than nominal voltage will compromise the operation of the relay.

2/ At 25°C.

3/ Pickup, hold, and dropout voltages shown are for test purposes only and shall not be used for design criteria.

4/ Over the temperature range.

5/ With nominal coil voltage.

6/ Maximum coil current over the temperature range is 0.21 amperes.

7/ Relay shall not operate or be damaged by reverse coil polarity.

Custodian:
Navy – AS
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC

Review activities:
Air Force - 99

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