

INCH-POUND

MIL-PRF-6106/43B
10 November 2000
SUPERSEDING
MIL-PRF-6106/43A(USAF)
29 April 1985

PERFORMANCE SPECIFICATION SHEET

RELAY, ELECTROMAGNETIC, 65 AMPERES, 1PNO DOUBLE BREAK
HERMETICALLY SEALED, TYPE I

This specification is approved for use by all Departments
and Agencies of the Department of Defense.

The requirements for acquiring the relays described herein shall
consist of this specification and the latest issue of MIL-PRF-6106.

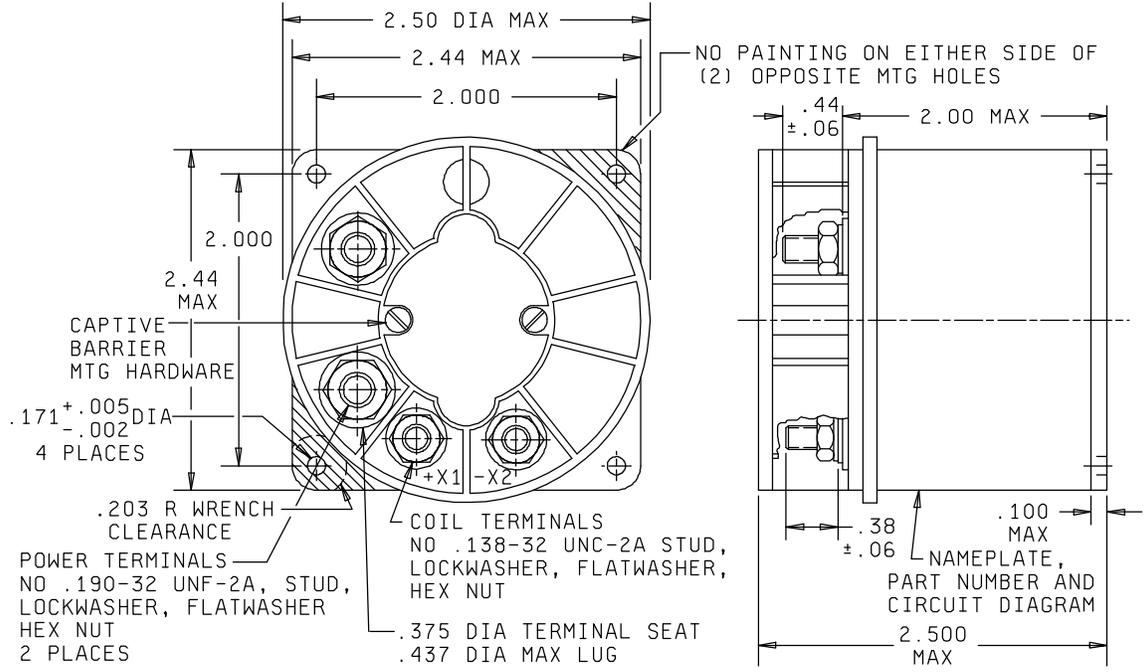
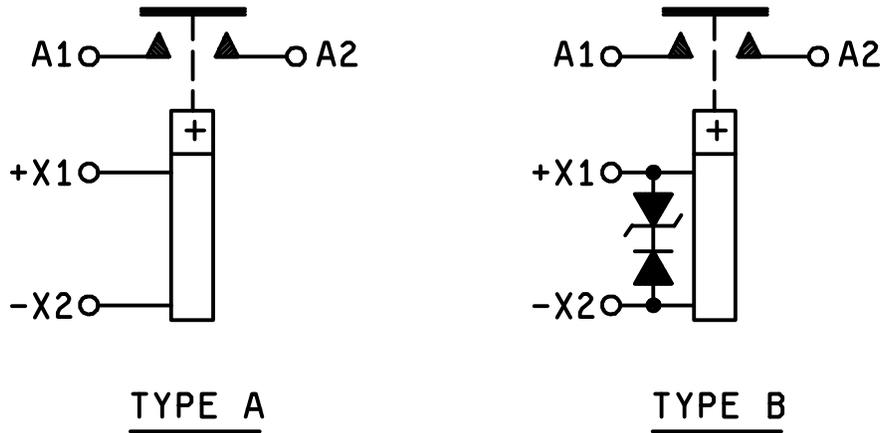


FIGURE 1. Relay, outline drawing.



**OBSERVE POLARITY, DC COILS
CIRCUIT DIAGRAM**

Inches	mm	Inches	mm	Inches	mm
.005	0.13	.203	5.16	1.910	48.51
.010	0.25	.375	9.53	2.000	50.80
.060	1.52	.380	9.65	2.440	61.98
.100	2.54	.437	11.11	2.500	63.50
.171	4.34	.440	11.18		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± 0.010 (0.25 mm).
4. Terminal numbers need not appear on the relay header provided there is affixed to the relay a suitable legible circuit diagram that identifies each terminal location specified.

FIGURE 1. Relay, outline drawing - Continued.

TABLE I. Mounting, termination, and operating characteristics.

Dash no.	Coil	Coil data										Time (milliseconds-maximum)							
		Nominal			Maximum		Max pickup voltage 1/			Drop out voltage 1/	Hold voltage 1/	Coil sup. back EMF max	CKT. type	Operate 2/	Release 3/	Bounce			
		Volts	Freq Hz	Res Ω $\pm 10\%$	Volts	Amp@ 25°C	Nominal 1/	High temp test	Cont current test							Main		Aux.	
										NO	NC	NO	NC						
-001	X1X2	28	DC	200	29	.160	18	20	21	1.5	7.0	--	A	35	25	3	--	5	--
-002	X1X2	28	DC	200	29	.160	18	20	21	1.5	7.0	50	B	35	25	3	--	5	--

- 1/ Over temperature range.
- 2/ With nominal coil voltage.
- 3/ From nominal coil voltage.

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TABLE II. Rated contact load (amperes per pole) case grounded.

Type of load	Life operating cycles x 10 ³	28 V dc				115 V ac, 1 phase				115/200 V ac, 3 phase 1/				See appropriate footnotes
		Main		Aux		Main		Aux		Main		Aux		
		NO	NC	NO	NC	400 Hz	50/60 Hz	400 Hz	60 Hz	400 Hz	50/60 Hz	400 Hz	60 hZ	
Resistive	50	50	---	---	---	65	---	---	---	---	---	---	---	
Inductive	20	50	---	---	---	---	---	---	---	---	---	---	---	
Inductive	50	---	---	---	---	65	---	---	---	---	---	---	---	
Lamp	50	17	---	---	---	---	---	---	---	---	---	---	---	
Lamp	25	20	---	---	---	---	---	---	---	---	---	---	---	
Transfer load		---	---	---	---	---	---	---	---	---	---	---	---	
Mechanical life reduced current	200	7	---	---	---	---	---	---	---	---	---	---	---	
Mixed loads	50	2.5	---	---	---	5	---	---	---	---	---	---	---	

1/ Absence of value indicates relay is not rated for 3 phase.

REQUIREMENTS:

Coil data:

Coil data: See table I.

Duty rating: Continuous.

Coil suppression, back EMF: See table I.

Operational data:

Operate time: See table I.

Release time: See table I.

Rated contact load: See table II.

Physical data:

Dimensions and configuration: See figure 1.

Weight: 0.688 pound (312 grams) max.

Seal: Hermetic.

Finish: Flat black.

Terminals: See figure 1.

Terminal insulator: Nonconductive. One type of insulator for meeting this requirement is MIL-I-24768/1. the insulator shall enable the product to meet the performance requirements of this specification.

Terminal Barrier: Nonconductive. One type of insulator for meeting this requirement is PA110 G43 A99900 KB207 UB090 PA176 E12 per ASTM D 4066-82. The insulator shall enable the product to meet the performance requirements of this specification.

ENVIRONMENTAL CHARACTERISTICS:

Temperature rating: -55°C to +71°C.

Altitude: 50,000 feet, maximum.

Vibration - sinusoidal:

Amplitude, double: 06 inch.

Frequency range: 10 - 55 Hz.

G-level: 10 g's.

Frequency range: 55 - 2,000 Hz.

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Vibration - Random:

1 hour each plane

0.04 G²/Hz 15-197 cycles.

4 dB/octave increase

197-300 cycles

0.7 G²/Hz 300-1000 cycles

6 dB octave decrease

1000-2000 cycles

Shock G level: 25 g's.

Duration: 6 - 9 milliseconds.

Maximum duration contact opening: 10 microseconds.

Acceleration: 10 g's.

Electrical:

Insulation resistance, initial: 100 megohms.

After life or environmental tests: 50 megohms.

Contact voltage drop, initial: 0.150 volts maximum.

After life test: 0.175 volts maximum.

Overload current: 125 amperes dc, 400 amperes ac.

Rupture current: 150 amperes dc, 500 amperes ac.

RFI standard (applicable to coil currents of ac operated relays): MIL-STD-461.

Dielectric strength (sea level):

	Initial	After life tests
Coil to case	1000 V rms	1000 V rms
Auxiliary contacts	1000 V rms	750 V rms
All other points	1500 V rms	1150 V rms

Dielectric strength at 50,000 ft. altitude:

	Initial
Coil to case	1000 V rms
Auxiliary contacts	1000 V rms
All other points	1500 V rms

Part number: M6106/43 (dash number from table I).

Qualification by similarity: See MIL-PRF-6106.

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Custodian:
Air Force - 11
DLA - CC

Preparing activity:
DLA-CC

Review activities:
Air Force - 99

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