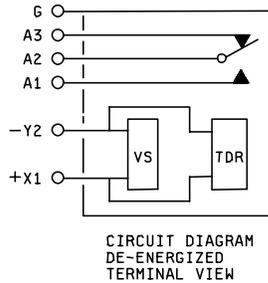
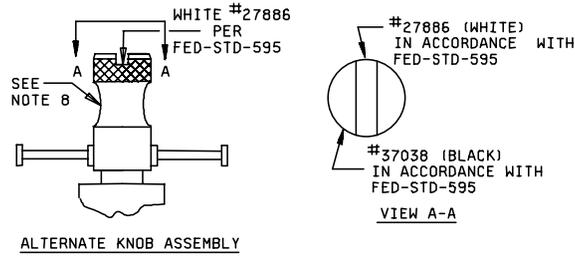


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Inches	mm	Inches	mm	Inches	mm
.001	0.03	.062	1.57	.400	10.16
.002	0.05	.078	1.48	.500	12.70
.005	0.13	.079	2.01	.800	20.32
.015	0.38	.094	2.39	1.025	26.04
.020	0.51	.140	3.56	1.250	31.75
.030	0.76	.200	5.08	1.300	33.02
.040	1.02	.270	6.86	1.830	46.48
.045	1.14	.313	7.95	2.118	53.80
				2.707	68.76

NOTES:

1. Dimensions are in inches.
2. Unless otherwise specified, tolerance is $\pm .010$ (0.25 mm).
3. Metric equivalents are given for general information only.
4. Terminal numbers shall not appear on the relay header. There shall be affixed to the relay a legible circuit diagram which identifies each terminal location specified.
5. For mounting track, see MIL-PRF-12883/49. For bracket and socket assembly, see MIL-PRF-12883/51.
6. Gasket material: Methylvinyl silicone; shore hardness A40.
7. Terminal plating: Shall provide the operational, environmental, and interface characteristics to provide a reliable interconnect to gold plated contacts. Terminals except for the polarizing pin, shall be gold plated. One system for gold plating that may be used is ASTM B488, type 3, class 1.25 with a nickel underplate of 50 to 150 microninches thick. The gold plating system shall enable the product to meet the performance requirements of this specification and shall be approved by the qualifying activity.
8. Knob and post shall be nickel plated (100 microinches thick minimum) 303 stainless steel.

FIGURE 1. Dimensions and configuration - Continued.

REQUIREMENTS:

Operating data:

Configuration: SPDT.

Life/load ratings: See table I.

Timing action: See table II.

TABLE I. Life/load ratings (relay case grounded).

Type of load	Life (cycles)	Amperes 28 V dc
Resistive	100,000	2.0
Inductive	50,000	0.5
Lamp	100,000	0.2
Mechanical life (reduced current)	400,000	0.5
Intermediate current	100,000	0.50

Contact drop:

Initial: 0.150 volt maximum.

After life tests: 0.175 volt maximum.

Minimum current: 0.050 ampere.

Contact bounce: See table II.

Overload:

DC: 8 amperes minimum.

AC: Not applicable.

Rupture:

DC: 10 amperes minimum.

AC: Not applicable.

Input data:

Duty ratings: Continuous.

Input voltage:

Maximum: See table II.

Rated: See table II.

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Voltage:

Operate: See table II.

Release: See table II.

Operate time: See table II.

Release time: See table II.

Maximum coil current: See table II.

TABLE II. Operating characteristics.

Dash number	DC coil volts <u>1/</u>			Maximum dc coil		Time-milliseconds-maximum		
	Rated	Pickup <u>2/</u>	Dropout	Volts	Amps	Operate <u>3/</u>	Release delay <u>4/</u>	Contact bounce <u>3/</u>
-001	28	15.5 +0.5, -0.0	14.0 -0.0 <u>5/</u>	30	0.11	10	150 ±50	1.0
-002		25.75 ±0.25	24.75 ±0.25				3500 ±500	
-003		21.0 +0.5, -0.0	20.5 +0.0, -0.5				1000 ±200	
-004		15.5 +0.5, -0.0	14.0 -0.0 <u>5/</u>					

1/ Over total operating temperature range.

2/ Applies also to MIL-PRF-6106 high temperature and continuous current tests.

3/ With rated coil voltage.

4/ From dropout voltage to 8 volts. Below 8 volts, release delay time may be 0.

5/ Plus tolerance permits any value less than pickup voltage.

Electrical data:

Insulation resistance:

Initial: See table III.

After life: See table III.

Dielectric withstanding voltage (sea level):

Coil to case:

Initial: See table III.

After life: See table III.

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All other points:

Initial: See table III.

After life: See table III.

Dielectric withstanding voltage (80,000 feet):

Coil to case:

Initial: See table III.

After life: See table III.

All other points:

Initial: See table III.

After life: See table III.

Leakage current: See table III.

TABLE III. Electrical data.

Minimum insulation resistance (megohms)		Dielectric withstanding voltage (rms)				
		Sea level <u>1/</u>			80,000 feet altitude <u>2/</u>	
Initial	After tests		Initial	After tests	Initial	After tests
100	100	Coil to case	1050	1050	350	350
		All other points	600	600	350	350
		Normal leakage current (rms) microamperes <u>3/</u>				
		Coil to case	25	25		
		All other points	25	25		

1/ Testing shall be performed with relay installed in socket and bracket assembly MIL-PRF-12883/51 and secured in mounting track MIL-PRF-12883/49.

2/ Relay shall not be installed in socket and bracket assembly MIL-PRF-12883/51.

3/ Leakage current at sea level.

Transients (applicable O -003 only): The time delay relay shall comply with MIL-STD-461 (applies to X1 and X2 terminals only; A1, A2, and A3 shall be wired but unloaded) and the requirements defined in method CE106, CS101, CS114, RE103, and RS103, except that the field intensity of RS103 shall be in accordance with table IV herein. Voltage spikes (transients of 500 microseconds or less duration) generated by the time delay relay and conducted on lines X1, X2 of the relay shall not exceed 42 volts. Voltages generated by the time delay relays shall be monitored on the control/power leads (+X1, X2) with an oscilloscope having the ability to detect, measure, and display voltage spikes of 0.25 to 1,000 volts amplitude and 10 nanoseconds to 50 microseconds duration. The oscilloscope shall be capable of retaining the display. The qualification test report shall include photographs of all oscilloscope-displayed spike voltages. Switches used to control the time delay relays shall not be EMI-suppressed in any way. During susceptibility testing, the relay shall not change state nor have the timing interval affected in any way by the EMI signals. The timing interval shall be considered to include the instants of turn-on and turn-off.

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TABLE IV. Field intensity levels.

Frequency	RS103 (volts/meter)
14 kHz to 200 MHz	20
200 MHz to 450 MHz	65
450 MHz to 1 GHz	20
1 GHz to 12 GHz	100

Environmental data:

Temperature range (operating): -70°C to +85°C. +171°C nonoperating, 10 minutes. +200°C, nonoperating, 1 minute.

Altitude: 80,000 feet.

Shock:

G level: 50 g's.

Duration: 10 milliseconds.

Contact opening: 10 microseconds, maximum.

Contact closing: 1 microsecond, maximum.

Vibration (sinusoidal):

G level: 30 g's.

Frequency range: 10 Hz to 3,000 Hz.

Vibration (random): Applicable in accordance with MIL-STD-202, method 214, test condition 1B.

Power specter density: 0.4 g²/Hz.

Frequency range: 50 Hz to 2,000 Hz.

Duration: 15 minutes each plane.

Vibration scan:

Frequency range: 5 Hz to 2,000 Hz.

Intensity: 0.01 inch double amplitude or ±2 g's (whichever is less).

Acceleration: 15 g's.

Seal: Applicable to nonhermetically-sealed relays and hermetically-sealed (potted) relays.

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Quality assurance provisions: Group B and group C testing are not required. The manufacturer shall notify the qualifying activity in the event of any design or construction changes, and shall impose additional testing requirements as necessary.

The Qualified Products List (QPL) associated with this inactive for new design specification will be maintained until acquisition of the product is no longer required, whereupon the specification and the QPL will be canceled.

Custodian:
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC

Review activities:
Air Force - 99

(Project 5945-1167-07)