

INCH-POUND

MIL-R-83726/8F  
14 December 2015  
SUPERSEDING  
MIL-R-83726/8E  
23 July 2013

MILITARY SPECIFICATION SHEET

RELAYS, HYBRID, TIME DELAY, (ON RELEASE), TYPE IIA,  
CLASS A, 2 AMPERES, 2PDT, FIXED TIME,  
0.100 TO 300 SECONDS

Inactive for new design after 22 July 1992.  
For new design use MIL-PRF-83726/29.

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

The requirements for acquiring the product described herein  
shall consist of this specification sheet and MIL-PRF-83726.

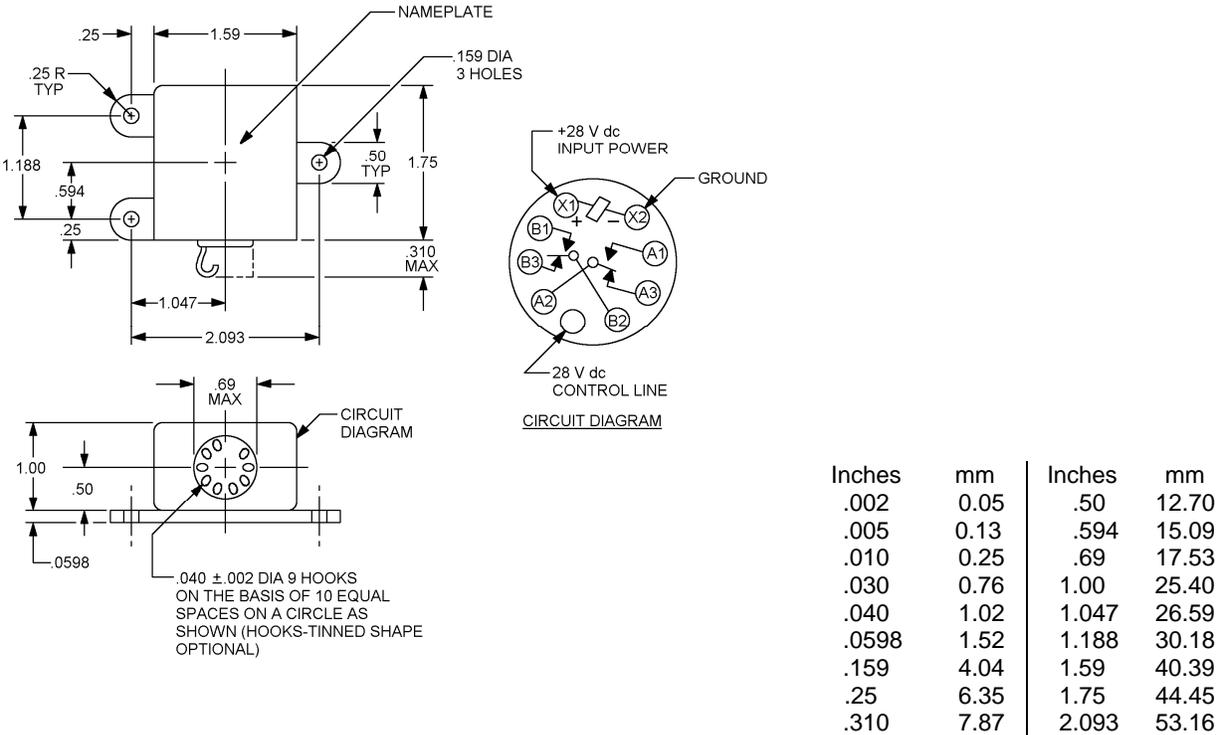
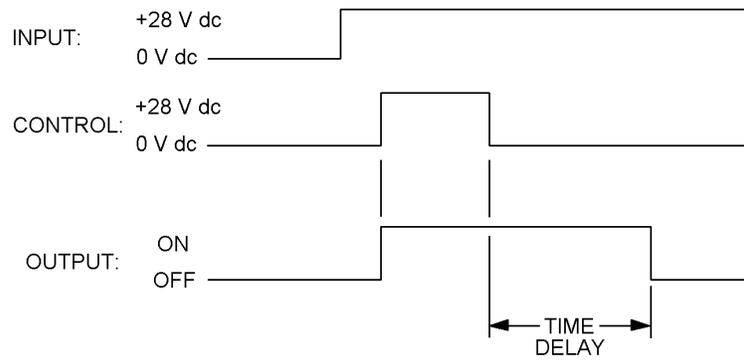


FIGURE 1. Outline dimensions and configuration of relay.



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TIMING DIAGRAM

NOTES:

1. Dimensions are in inches.
2. Unless otherwise specified, tolerance is  $\pm 0.010$  (0.25 mm) for three place decimals and  $\pm 0.03$  (0.8 mm) for two place decimals.
3. Metric equivalents are given for general information only.
4. Terminal numbers shall not appear on the relay header and there shall be affixed to the relay a permanent legible schematic diagram that identifies each terminal location specified.

FIGURE 1. Outline dimensions and configuration of relay - Continued.

TABLE I. Available time delay relays. [1/](#)

Dash number	Time delay seconds ±10%						
-1000	<a href="#">2/</a> .100	-1402	14	-7002	70	-1803	180
-5000	<a href="#">2/</a> .500	-1602	16	-7502	75	-1903	190
-7500	<a href="#">2/</a> .750	-1802	18	-8002	80	-2003	200
-1001	1	-2002	20	-8502	85	-2103	210
-2001	2	-2202	22	-9002	90	-2203	220
-3001	3	-2502	25	-9502	95	-2303	230
-4001	4	-3002	30	-1003	100	-2403	240
-5001	5	-3502	35	-1103	110	-2503	250
-6001	6	-4002	40	-1203	120	-2603	260
-7001	7	-4502	45	-1303	130	-2703	270
-8001	8	-5002	50	-1403	140	-2803	280
-9001	9	-5502	55	-1503	150	-2903	290
-1002	10	-6002	60	-1603	160	-3003	300
-1202	12	-6502	65	-1703	170		

[1/](#) Additional time delay relays within the .100- to 300 second delay range are available. To establish Part or Identifying Numbers (PINs) not listed in [table I](#) (see "PIN" herein).

[2/](#) Add ±10 milliseconds to ±10 percent tolerance.

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REQUIREMENTS:

CONTACT DATA:

Configuration: 2PDT; 2 form C.

Life/load rating (relay case grounded):

Type of load	Life (cycles)	28 V dc	Amperes 115 V ac - 1 phase 60 and 400 Hz
Resistive	100,000	2.0	0.3
Inductive	100,000	1.0	0.3
Lamp	100,000	0.1	0.1

Contact voltage drop:

Initial: 0.150 volt maximum.

After life tests: 0.200 volt maximum.

Intermediate current: Applicable in accordance with [MIL-R-5757](#).

Contact bounce: 2 milliseconds maximum, to be measured on each contact set using an oscilloscope, contacts shall be loaded with rated current and voltage.

Overload:

Resistive: 200 percent rated current.

Inductive: 200 percent rated current.

INPUT DATA:

Duty power: Continuous.

Range of voltage: 18 to 31 V dc.

| Input voltage: 18 to 31 V dc.

| Control line voltage: 18 to 31 V dc.

Minimum voltage - high temperature: 18 V dc.

Maximum current at 25°C and 28 V dc: 110 milliamperes.

Time delay: Fixed time .1 to 300 seconds (see [table I](#)).

Time delay tolerance: ±10 percent except as noted in [table I](#), under all combinations of input voltage and all environmental conditions.

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Recycle characteristics:

Before time out: Control power must remain off at least 25 milliseconds or 1 percent of the nominal time delay, whichever is greater, after which reapplication of control power for 25 milliseconds minimum will recycle the timer with a loss in timing no greater than 10 percent.

After time out: Reapplication and subsequent removal of control power will recycle the timer. Control power must be applied for 25 milliseconds or 1 percent of the total time delay, whichever is greater, to insure a loss in timing accuracy no greater than 10 percent.

Polarity protection: The unit will be inoperative during, and undamaged by, reversal of the input polarity.

ELECTRICAL DATA:

Insulation resistance at 500 V dc 1/:

Initial: 1,000 megohms minimum.

After life or environmental tests: 500 megohms minimum.

Dielectric withstanding voltage (sea level):

Input (1 and 9) 1/ :

Initial: 1,000 V rms.

After life: 1,000 V rms

All other points 2/:

Initial: 1,000 V rms.

After life: 500 V rms.

Dielectric withstanding voltage (altitude):

Input (1 and 9): 350 V rms 1/

All other points: 350 V rms 2/

Transients: In accordance with MIL-STD-704 (figure 11) for 28 V dc system.

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1/ Input terminals 1, 5, and 9 must be connected together during this test.

2/ All pins to case for this test.

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ENVIRONMENTAL DATA:

Temperature range: -65°C to +125°C.

Altitude: 80,000 feet.

Shock: 50 G's for 11 ±1 milliseconds, [MIL-STD-202](#), method 213A, condition A.

Contact opening: 10 microseconds maximum duration. Monitor in accordance with method 310 of [MIL-STD-202](#).

Vibration (sinusoidal): 10-80 Hz at .06 inch peak double amplitude, 80-3,000 Hz at 20 G's.

Acceleration: 50 G's steady state, no opening of closed contacts.

Sealing: Not applicable.

PHYSICAL DATA:

Dimensions and configuration: See [figure 1](#).

Weight: 0.25 pound maximum.

Terminal strength: 3 ±0.5 pounds pull maximum.

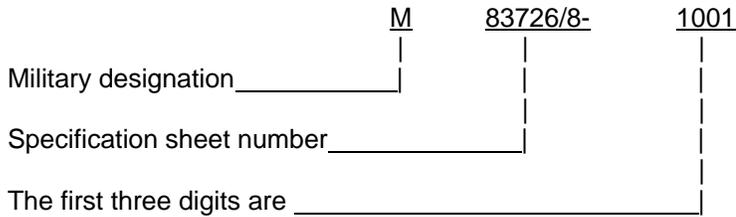
Finish: Bright nickel in accordance with [SAE-AMS-QQ-N-290](#), class 1, type IV.

Marking: See [MIL-PRF-83726](#). In addition, relays shall be marked with the Electrostatic-Discharge-Sensitive (ESD) identifier as specified in [MIL-STD-1285](#).

Electrostatic-Discharge (ESD) control program: Applicable (see [MIL-PRF-83726](#)).

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Part or Identifying Number (PIN): Consists of the prefix M83726/8-, a four-digit dash number expressed in milliseconds as follows:



significant; the fourth digit is the number of zeros to follow the first three digits. (The time delay is expressed in milliseconds and converted to seconds.) See example.

Example: M83726/8 - 0600 - 60 millisecond time delay.

NOTE: As of 15 June 1999, [MIL-PRF-83726](#) no longer specifies Quality Levels, but existing order configurations may still include them. Relays with a "W" quality level indicator at the end are interchangeable with relays without a quality level letter.

CONFORMANCE INSPECTION:

Performance of groups B and C tests are not applicable.

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 this specification and the QPL will be canceled.

Referenced documents. In addition to [MIL-PRF-83726](#), this document references the following:

[MIL-R-5757](#)  
[MIL-STD-202](#)

[MIL-PRF-83726/29](#)  
[MIL-STD-704](#)

[SAE-AMS-QQ-N-290](#)  
[MIL-STD-1285](#)

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the previous issue.

Custodians:

Army - CR  
Navy - EC  
Air Force - 85  
DLA - CC

Preparing activity:  
DLA - CC

(Project 5945-2016-003)

Review activity:

Air Force - 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.