

INCH-POUND
MIL-R-83726/7G
30 November 2015
SUPERSEDING
MIL-R-83726/7F
05 December 2014

MILITARY SPECIFICATION SHEET

RELAYS, HYBRID, TIME DELAY, ON PICKUP, TYPE I,
CLASS A, 2 AMPERES, 2PDT, FIXED TIME,
0.06 TO 300 SECONDS

Inactive for new design after 22 July 1992.
Refer to [MIL-PRF-83726/28](#) for new design.

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 and [MIL-PRF-83726](#).

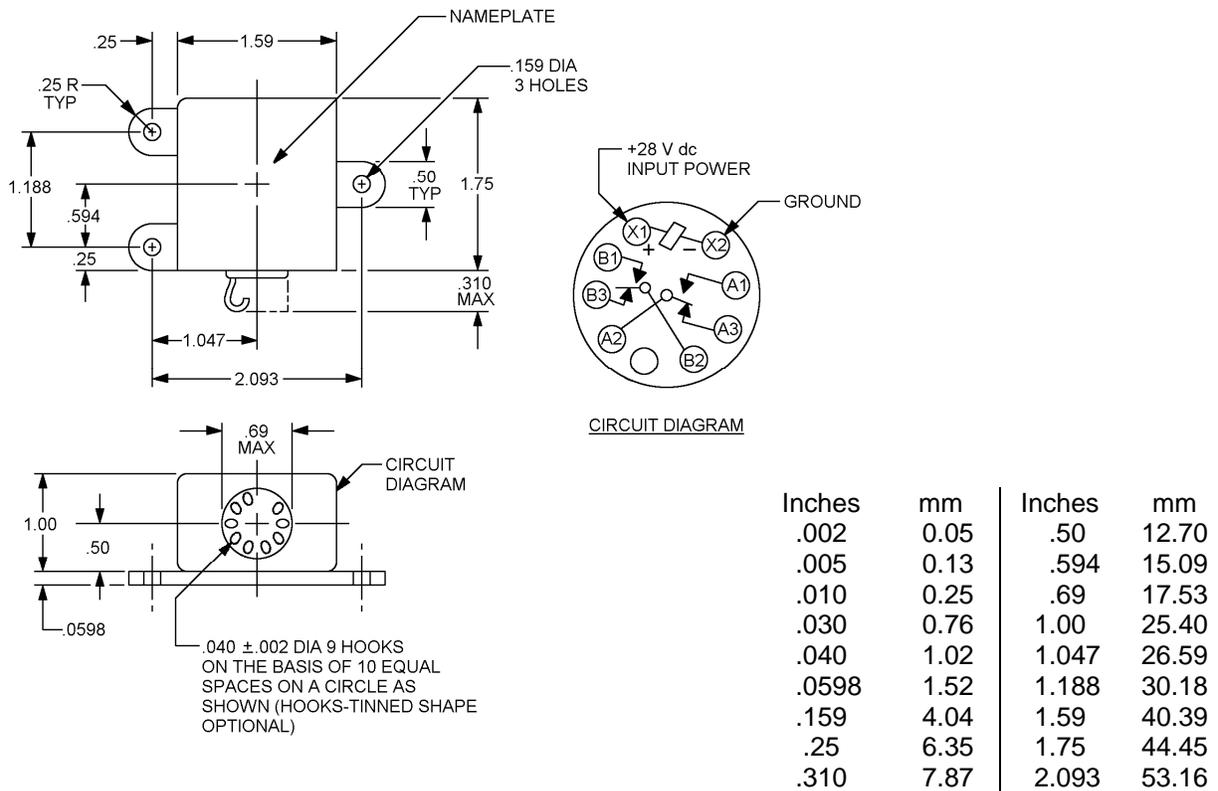
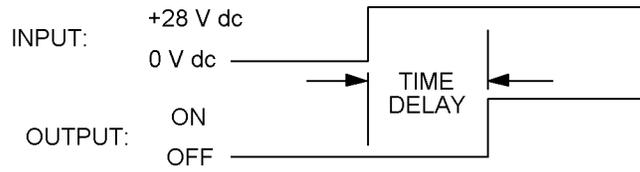


FIGURE 1. Outline dimensions and configuration of relay.



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TIMING DIAGRAM

NOTES:

1. Dimensions are in inches.
2. Unless otherwise specified, tolerance is ± 0.010 (0.25 mm) for three place decimals and ± 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 $\pm 10\%$	Dash number	Time delay seconds $\pm 10\%$	Dash number	Time delay seconds $\pm 10\%$	Dash number	Time delay seconds $\pm 10\%$
-0600	.060	-1202	12	-6502	65	-1703	170
-1000	.100	-1402	14	-7002	70	-1803	180
-5000	2/ .500	-1602	16	-7502	75	-1903	190
-7500	.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

[1/](#) Additional time delay relays within the 0.60- to 300 second delay range are available. To establish Part or Identifying Numbers (PIN's) 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	.75	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.

Minimum voltage - high temperature: 18 V dc.

Maximum current at 25°C and 28 V dc: 80 milliamperes.

Time delay: Fixed time 0.06 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: Power must be removed for 50 milliseconds or 5 percent of the nominal time delay, whichever is greater, to insure a loss in timing no greater than 10 percent.

After time out: Power must be applied for 90 milliseconds or 1 percent of the nominal time delay, whichever is greater, after which an interruption of 10 milliseconds will insure a loss in timing 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 at high temperature: 500 megohms minimum.

Dielectric withstanding voltage:

	Sea level (V rms, 60 Hz)	Altitude (V rms 60 Hz)
Between case and all contacts	1,000	
Between case and inputs 1 and 9 <u>1/</u>	500	350 <u>2/</u>
Between all contacts and inputs 1 and 9	1,000	
Between open contacts in the energized and unenergized positions	500	
Between contact poles	1,000	

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

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 213, 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.

1/ Input terminals X1 and X2 must be connected together during this test.

2/ All pins to case for this test.

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PHYSICAL DATA:

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

Weight: 0.25 pound maximum.

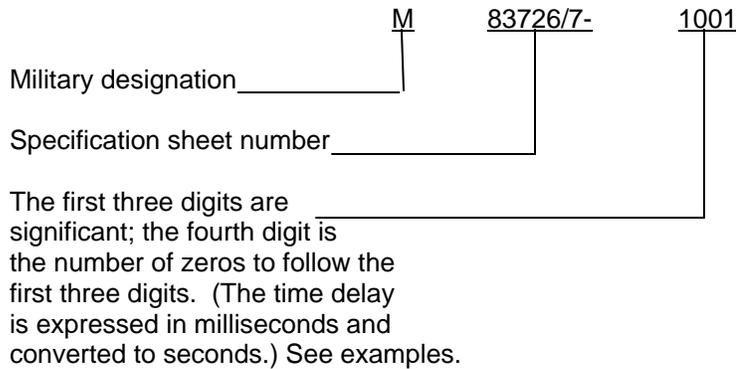
Terminal strength: 3 ±0.5 pounds pull maximum.

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 ESDS identifier as specified in [MIL-STD-1285](#).

ESDS protection program: The manufacturer shall establish and maintain an ESD control program. Relays shall be handled, preserved, and packaged in such a manner as to ensure that the integrity of ESD sensitive relays is not diminished. ESD sensitive relays shall be handled, preserved, and packaged in accordance with the requirements of [MIL-STD-1686](#).

Part or Identifying Number (PIN): Consists of the prefix M83726/7-, a four-digit dash number expressed in milliseconds as follows:



Example: M83726/7 - 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.

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

- | | | |
|-----------------------------|------------------------------|----------------------------------|
| MIL-R-5757 | MIL-STD-1285 | SAE-AMS-QQ-N-290 |
| MIL-STD-202 | MIL-STD-1686 | MIL-PRF-83726/28 |
| MIL-STD-704 | | |

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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 context 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 5945-2016-002)

Review activity:
Air Force - 99

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