

# Time Delay Relays

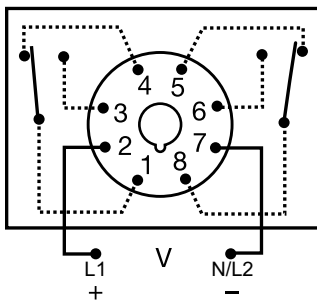
## DELAY-ON-MAKE

### TDM / TDMH / TDML Series

#### Delay-on-Make Timer



### Wiring Diagram



Relay contacts are isolated.

### Ordering Information

MODEL	INPUT VOLTAGE	DELAY RANGE
TDM120AL	120 V ac	1–1023 s in 1 s increments
TDM12DL	12 V dc	1–1023 s in 1 s increments
TDM230AL	230 V ac	1–1023 s in 1 s increments
TDM24AL	24 V ac	1–1023 s in 1 s increments
TDM24DL	24 V dc/28 V dc	1–1023 s in 1 s increments
TDMH120AL	120 V ac	10–10230 s in 10 s increments
TDMH24AL	24 V ac	10–10230 s in 10 s increments
TDML110DL	110 V dc	0.1–102.3 s in 0.1 s increments
TDML120AL	120 V ac	0.1–102.3 s in 0.1 s increments
TDML12DL	12 V dc	0.1–102.3 s in 0.1 s increments
TDML24DL	24 V dc/28 V dc	0.1–102.3 s in 0.1 s increments

### Description

The TDM/TDMH/TDML series is a delay-on-make timer that combines accurate digital circuitry with isolated, DPDT relay contacts in an industry standard 8-pin plug-in package. DIP switch adjustment allows precise selection of the time delay over the full time delay range. The TDM/TDMH/TDML series is the product of choice for custom control panel and OEM designers.

#### Operation (Delay-on-Make)

Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output relay energizes and remains energized until input voltage is removed.

**Reset:** Removing input voltage resets the time delay and output.

### Features & Benefits

FEATURES	BENEFITS
<b>Wide delay range (0.1 s to 2.8 h)</b>	User selectable via DIP switches for fine tuning to individual applications.
<b>Microcontroller based</b>	Repeat Accuracy +/- 0.1 %
<b>Dip switch adjustment</b>	Provides first time setting accuracy of +/- 2 %
<b>Setting accuracy +/- 2 %</b>	Provides flexibility for use in most applications
<b>LED indication</b>	Provides visual indication of time delay status
<b>Isolated 8 A, DPDT output contacts</b>	Allows control of loads with independent voltage sources

### Accessories



#### OT08PC 8-pin Octal Socket for UL listing\*

8-pin 35 mm DIN-rail or surface mount. Rated at 10 A @ 600 V ac. Surface mounted with two #6 screws or snaps onto a 35 mm DIN rail.



#### P1011-6 Octal Socket for UL listing\*

8-pin surface mount socket with binder head screw terminals. Rated 10 A @ 600 V ac.



#### C103PM (AL) DIN Rail

35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.

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### Specifications

#### Time Delay

**Type** Digital integrated circuitry  
**Range** 0.1–102.3 s in 0.1 s increments  
 1–1023 s in 1 s increments  
 10–10,230 s in 10 s increments

**Repeat Accuracy** ±0.1 %  
**Setting Accuracy** ±2 %  
**Reset Time** ≤ 150 ms

**Time Delay vs. Temperature & Voltage Indicator** ±5 %  
 LED glows during timing; relay is de-energized

#### Input

**Voltage** 12, 24, or 110 V dc; 24, 120, or 230 V ac

#### Tolerance

**12 V dc & 24 Vdc/ac** -15 %–20 %

**110 V ac/dc to 230 V ac** -20 %–10 %

**Ac Line Frequency** 50/60 Hz

**Power Consumption** ≤ 3.25W

#### Output

**Type** Electromechanical relay

**Form** DPDT

**Rating** 8 A resistive @ 120/240 V ac;

1/3 hp @ 120/240 V ac

Mechanical -  $1 \times 10^7$ ; Electrical -  $1 \times 10^6$

#### Life

#### Protection

**Polarity** Dc units are reverse polarity protected

**Isolation Voltage** ≥ 1500 V RMS input to output

#### Mechanical

**Mounting** Plug-in socket

**Dimensions** **H** 44.45 mm (1.75"); **W** 60.33 mm (2.38");

**D** (with socket) 104.78 mm (4.13")

#### Termination

Octal 8-pin plug-in

#### Environmental

#### Operating/Storage

**Temperature** -20 °C to 65 °C / -30 °C to 85 °C

**Weight** ≈ 4 oz (113 g)

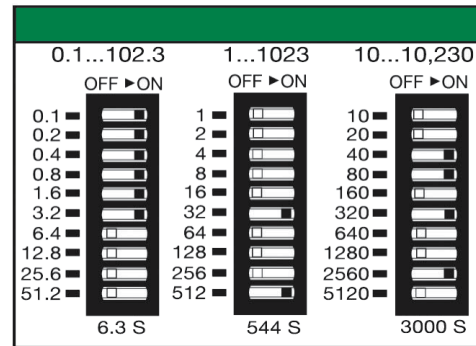
#### Safety Marks

**UL (socket required)\*** UL 508 (E57310)

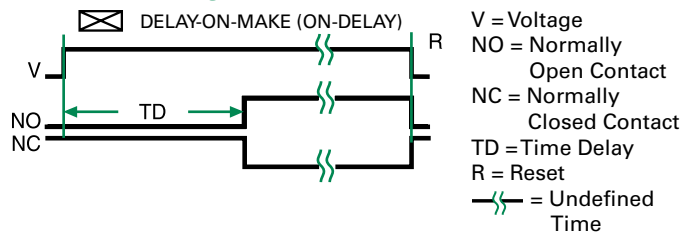
\*UL Listed when used with Part Number OT08-PC or RB08-PC manufactured by Custom Connector Corp.

**Note:** Manufacturer's recommended screw terminal torque for the OT Series sockets is 12 in-lbs.

### Binary Switch Operation



### Function Diagram



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