

# Time Delay Relays

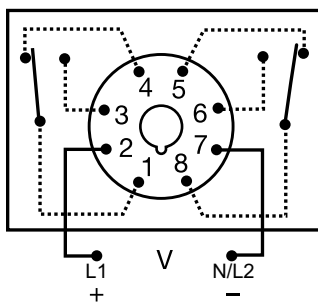
## DELAY-ON-MAKE

### 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.

# Time Delay Relays

## DELAY-ON-MAKE

### Specifications

#### Time Delay

##### Type

##### Range

Digital integrated circuitry  
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

±5 %

##### Indicator

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 x 10<sup>7</sup>; Electrical - 1 x 10<sup>6</sup>

#### 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")

Octal 8-pin plug-in

#### Termination

#### Environmental

##### Operating/Storage

##### Temperature

-20 °C to 65 °C / -30 °C to 85 °C

##### Weight

≈ 4 oz (113 g)

##### Safety Marks

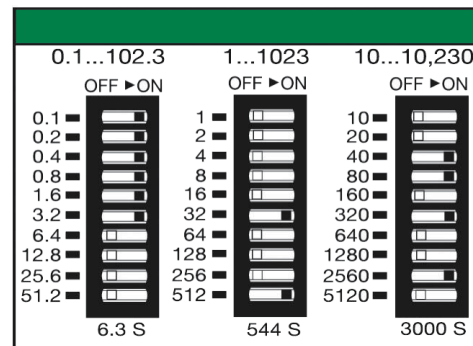
##### UL (socket required)\*

UL 508 (E57310)

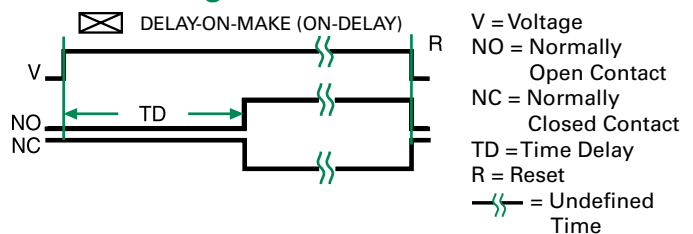
\*UL Listed when used with Part Number OT08-PC or RB08-PC manufactured by Custom Connector Corp.

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

### Binary Switch Operation



### Function Diagram



**Disclaimer Notice** – Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at [www.littelfuse.com/product-disclaimer](http://www.littelfuse.com/product-disclaimer).