Time Delay Relays
Dedicated - Delay-on-Make

TDM / TDMH / TDML SERIES

Delay-on-Make Timer

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

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>BENEFITS</th>
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<tbody>
<tr>
<td>Wide delay range</td>
<td>User selectable via DIP switches for fine tuning to individual applications.</td>
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<tr>
<td>(0.1s to 2.8h)</td>
<td></td>
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<tr>
<td>Microcontroller based</td>
<td>Repeat Accuracy +/- 0.1%</td>
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<tr>
<td>Dip switch adjustment</td>
<td>Provides first time setting accuracy of +/-2%</td>
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<tr>
<td>Setting accuracy +/-2%</td>
<td>Provides flexibility for use in most applications</td>
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<tr>
<td>LED indication</td>
<td>Provides visual indication of time delay status</td>
</tr>
<tr>
<td>Isolated 10A, DPDT</td>
<td>Allows control of loads for AC or DC voltages</td>
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<tr>
<td>output contacts</td>
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</table>

Accessories

- BZ1 Front Panel Mount Kit
  Provides an easy method of through-the-panel mounting of 8- or 11-pin plug-in timers, flashers, and other controls.

- NDS-8 Octal 8-pin Socket
  8-pin 35mm DIN rail or surface mount. Surface mounted with two #6 screws or snaps onto a 35 mm DIN rail. Uses PSC8 hold-down clips.

- PSC8 or PSC11 Hold-down Clips
  Securely mounts plug-in controls in any position. Provides protection against vibration. Use PSC8 with NDS-8 Octal Socket or PSC11 with NDS-11 Socket. Sold in sets of two.

- P1011-6 Octal Socket for UL listing*
  8-pin surface mount socket with binder head screw terminals. Rated 10A @ 600VAC.

- C103PM (AL) DIN Rail
  35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.

Ordering Information

<table>
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<tr>
<th>MODEL</th>
<th>INPUT VOLTAGE</th>
<th>DELAY RANGE</th>
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<tr>
<td>TDM120AL</td>
<td>120VAC</td>
<td>1 - 1023s in 1s increments</td>
</tr>
<tr>
<td>TDM12DL</td>
<td>12VDC</td>
<td>1 - 1023s in 1s increments</td>
</tr>
<tr>
<td>TDM230AL</td>
<td>230VAC</td>
<td>1 - 1023s in 1s increments</td>
</tr>
<tr>
<td>TDM24AL</td>
<td>24VAC</td>
<td>1 - 1023s in 1s increments</td>
</tr>
<tr>
<td>TDM24DL</td>
<td>24VDC/28VDC</td>
<td>1 - 1023s in 1s increments</td>
</tr>
<tr>
<td>TDMH120AL</td>
<td>120VAC</td>
<td>10 - 10230s in 10s increments</td>
</tr>
<tr>
<td>TDMH24AL</td>
<td>24VAC</td>
<td>10 - 10230s in 10s increments</td>
</tr>
<tr>
<td>TDML110DL</td>
<td>110VDC</td>
<td>0.1 - 102.3s in 0.1s increments</td>
</tr>
<tr>
<td>TDML120AL</td>
<td>120VAC</td>
<td>0.1 - 102.3s in 0.1s increments</td>
</tr>
<tr>
<td>TDML12DL</td>
<td>12VDC</td>
<td>0.1 - 102.3s in 0.1s increments</td>
</tr>
<tr>
<td>TDML24DL</td>
<td>24VDC/28VDC</td>
<td>0.1 - 102.3s in 0.1s increments</td>
</tr>
</tbody>
</table>

*8-pin models UL listed when used in combination with P1011-8 socket only.
### Specifications

**Time Delay**

- **Type**: Digital integrated circuitry
- **Range***: 0.1 - 102.3s in 0.1s increments  
  1 - 1023s in 1s increments  
  10 - 10,230s in 10s increments
- **Repeat Accuracy**: ±0.1% or 20ms, whichever is greater
- **Setting Accuracy**: ±2% or 50ms, whichever is greater
- **Reset Time**: ≤ 50ms
- **Recycle Time**: During Timing - TDMH: ≤ 500ms  
  TDM, TDML: ≤ 300ms
- **Time Delay vs. Temperature & Voltage**: ±2%
- **Indicator**: LED glows during timing; relay is de-energized

**Input**

- **Voltage**: 12, 24, or 110 VDC; 24, 120, or 230VAC
- **Tolerance**:  
  12VDC & 24VDC/AC: -15% - 20%  
  110VAC/DC to 230VAC: -20% - 10%
- **AC Line Frequency**: 50/60 Hz
- **Power Consumption**: ≤ 2.25W

**Output**

- **Type**: Electromechanical relay
- **Form**: DPDT
- **Rating**: 10A resistive @ 120/240VAC & 28VDC; 1/3 hp @ 120/240VAC
- **Life**: Mechanical - 1 x 10⁷; Electrical - 1 x 10⁶
- **Protection**
  - **Polarity**: DC units are reverse polarity protected
  - **Isolation Voltage**: ≥ 1500V RMS input to output
- **Mechanical**
  - **Mounting**: Plug-in socket
- **Dimensions**
  - H 81.3 mm (3.2”); W 60.7 mm (2.39”);  
  - D 45.2 mm (1.78”)
- **Termination**: Octal 8-pin plug-in

**Environmental**

- **Operating/Storage Temperature**: -20° to 65°C / -30° to 85°C
- **Weight**: ≈ 6 oz (170 g)

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*For CE approved applications, power must be removed from the unit when a switch position is changed.