

# TIME DELAY RELAYS

*Time Ranger*™ Digital -Set  
Programmable Multi-Range  
Plug-in



Multi-Function

Single-Function

The TD-7 series of time delay relays offer an easy and accurate way to select any time delay between 50ms & 999 hours. Programming is accomplished by using a pushbutton thumbwheel to select one of seven built-in time ranges and three pushbutton thumbwheels to digitally set the time delay required. This method provides a greater setting accuracy than is found on other units with an analog potentiometer. An LED indicates timing mode and time out condition.

The TD-7 series comes in two versions: a single function product or a multi-function product. The TD-781 multi-function unit has a fifth pushbutton thumbwheel to select one of five built-in functions.

- u Available in either Single-Function or Multi-Function versions (with five user-selectable modes)
- u Pushbutton Thumbwheels for digital set of time delay & function (TD-781 series only)
- u 50ms - 999 hour programmable time range
- u Uses industry-standard 8 or 11 pin octal sockets
- u 10A DPDT output contacts
- u LED indicates timing mode and time out conditions



### Multi-Function Product

FUNCTION	INPUT VOLTAGE	PRODUCT NUMBER	WIRING/ SOCKETS
<b>MULTI-FUNCTION</b> (5 Field-Selectable Functions in one unit) <ul style="list-style-type: none"> <li>u On Delay</li> <li>u Off Delay</li> <li>u Interval On</li> <li>u Single Shot</li> <li>u Flasher</li> </ul>	120V AC/DC	TD-78122	11 PIN OCTAL <b>70170-D</b>  <b>DIAGRAM 121</b>
	12V AC/DC	TD-78126	
	24V AC/DC	TD-78128	
	240V AC	TD-78121	

### Single Function Products

FUNCTION	INPUT VOLTAGE	PRODUCT NUMBER	WIRING/ SOCKETS
<b>ON DELAY</b>	120V AC/DC	TD-70222	8 PIN OCTAL <b>70169-D</b>  <b>DIAGRAM 1</b>
	12V AC/DC	TD-70226	
	24V AC/DC	TD-70228	
	240V AC	TD-70221	
<b>INTERVAL ON</b>	120V AC/DC	TD-70522	
	12V AC/DC	TD-70526	
	24V AC/DC	TD-70528	
	240V AC	TD-70521	
<b>FLASHER</b>	120V AC/DC	TD-70822	
	12V AC/DC	TD-70826	
	24V AC/DC	TD-70828	
	240V AC	TD-70821	
<b>OFF DELAY</b>	120V AC/DC	TD-71622	11 PIN OCTAL <b>70170-D</b>  <b>DIAGRAM 2</b>
	12V AC/DC	TD-71626	
	24V AC/DC	TD-71628	
	240V AC	TD-71621	
<b>SINGLE SHOT</b>	120V AC/DC	TD-71522	
	12V AC/DC	TD-71526	
	24V AC/DC	TD-71528	
	240V AC	TD-71521	

# TIME DELAY RELAYS

## *Time Ranger*™ Digital -Set Programmable Multi-Range Plug-in Application Data & Dimensions

### Application Data

#### **Voltage Tolerance:**

AC Operation: +10/-15% of nominal at 50/60 Hz.  
DC Operation: +10/-15% of nominal.

#### **Load (Burden):**

3 VA

#### **Setting Accuracy:**

±1% of set time or ±50ms, whichever is greater.

**Repeat Accuracy** (constant voltage and temperature):  
±0.1% of set time or ±0.02 seconds, whichever is greater.

#### **Reset Time:**

On Delay/Interval/Flasher: 0.1 Seconds  
Off Delay/Single Shot: 0.04 Seconds

#### **Start-up Time:**

(Time from when power is applied until unit is timing)  
120 & 240V units 0.05 Seconds  
12, 24 & 48V units 0.08 Seconds

#### **Maintain Function Time:**

(Time unit continues to time after power is removed)  
0.01 Seconds for all units

#### **Temperature:**

12-120V Input Voltage: -28° to 65°C (-18° to 150°F)  
240V Input Voltage: -28° to 50°C (-18° to 122°F)

#### **Insulation Voltage:**

2,000 volts

#### **Output Contacts:**

DPDT 10A @ 240V AC/30V DC,  
1/2HP @ 120/240V AC (N.O.), 1/3HP @ 120V AC (N.C.)  
B300 & R300; AC15 & DC13

#### **Life:**

Mechanical: 10,000,000 operations  
Full Load: 100,000 operations

#### **Compatibility:**

Do not use a solid state switch to initiate the timing sequence- problems with leakage current could occur. Contact Macro-matic Controls for additional information.

#### **Triggering Off Delay or Single Shot Units:**

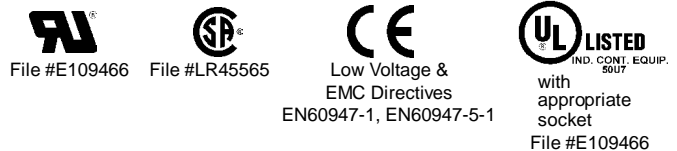
Timing sequence must be initiated only after input voltage is applied to unit. Minimum required trigger switch closure time is 0.1 seconds.

#### **LED:**

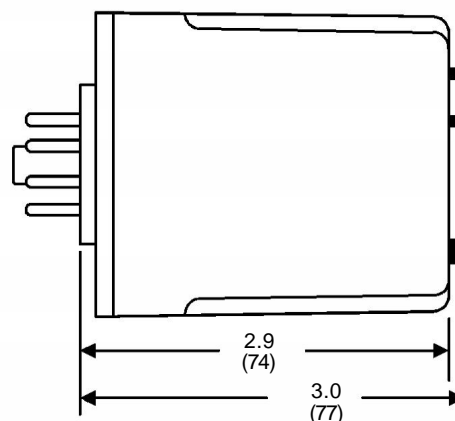
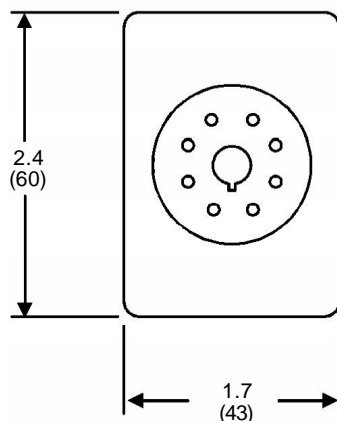
Flasher Mode: Flashes during "ON" time; continuous on during "OFF" time

All Other Modes: Flashes during timing; continuous on after time out.

#### **Approvals:**



### Dimensions



All Dimensions in Inches (Millimeters)