

# TIME DELAY RELAYS

## TIME RANGER™ DIGITAL-SET PROGRAMMABLE MULTI-RANGE PLUG-IN



Multi-Function

Single-Function

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

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: selected single function products or a multi-function product. The TD-781 multi-function unit has a fifth pushbutton thumbwheel to select one of ten built-in functions.

### Multi-Function Product

FUNCTION ■	INPUT VOLTAGE	PRODUCT NUMBER	WIRING/ SOCKETS
<b>MULTI-FUNCTION</b> (10 Functions in One Unit) <ul style="list-style-type: none"> <li>◆ On Delay</li> <li>◆ Interval On</li> <li>◆ Off Delay</li> <li>◆ Single Shot</li> <li>◆ Flasher (OFF 1st)</li> <li>◆ Flasher (ON 1st)</li> <li>◆ Flasher (OFF 1st)</li> <li>◆ On Delay/Off Delay</li> <li>◆ Single Shot Falling Edge</li> <li>◆ Watchdog</li> <li>◆ Triggered On Delay</li> </ul>	120V AC/DC 12V AC/DCC 24V AC/DC 240V AC	TD-78122 TD-78126 TD-78128 TD-78121	11 PIN OCTAL <b>70170-D</b>  <b>DIAGRAM 121</b>

### Single Function Products

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

■ See Pages 52 & 53 for definitions & explanations of Timing Functions.

Sockets & Accessories—Pages 81 & 82      Application Data & Dimensions—Page 69



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## 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

Functions with Control Switches: 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 @ 120/240V 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.

**Initiating Units with Control Switch Triggers:**

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

**LED:**

Red LED. Refer to instruction sheet provided with product to  
determine code for relay & timing status.

**Approvals:**



File #E109466



File #LR45565

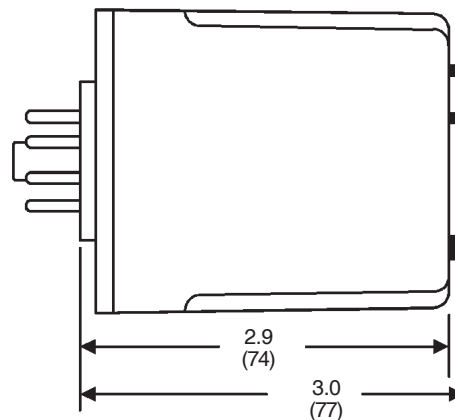
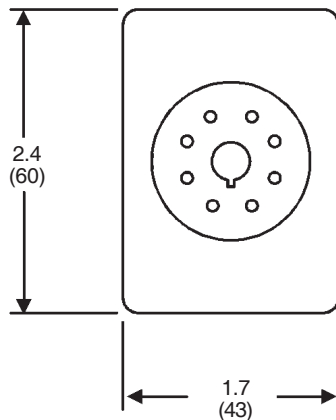


Low Voltage &  
EMC Directives  
EN60947-1, EN60947-5-1



IND. CONT. EQUIP.  
5007  
with  
appropriate  
socket  
File #E109466

### DIMENSIONS



All Dimensions in  
Inches (Millimeters)