



INSTALLATION INSTRUCTIONS

TD-781, TD-702, TD-705, TD-708, TD-715 & TD-716

DIGITAL-SET TIME DELAY RELAY

SERIES A

April, 2005 REV A (Replaces New Dated July, 2004)

901-0000-110

READ INSTRUCTIONS BEFORE INSTALLING OR OPERATING THIS DEVICE. KEEP FOR FUTURE REFERENCE.

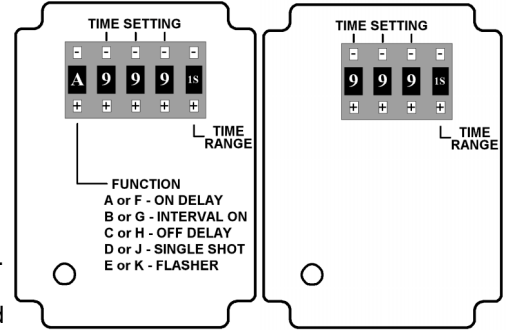
NOTE: Power must be removed from the unit before setting the pushbutton thumbwheels.

The following step applies only to the TD-781 Multi-Function unit (Figure 1):

Changing Function: Operate the left pushbutton to set the function. Five functions are selectable (NOTE: each function can be selected by either of two letters). The selected function is displayed in the operation mode display window.

The remaining steps apply to all TD-7 units (Figure 1 & Figure 2):

Changing Time Delay and Time Range: Operate the right button to set the time range. Seven time units (0.01S, 0.1S, 1S, 0.1M, 1M, 0.1H and 1H) are selectable. **NOTE:** three time units are repeated: 0.01S, 0.1S & 1S. The selected time range is displayed in the time unit display window. The desired time delay is specified by operating the three middle pushbuttons within a range of 001 to 999 for each time unit. Do not set the switches to 000. **NOTE:** the minimum time delay setting for this unit is 50ms.



**Figure 1-
Multi-Function
(TD-781)**

**Figure 2-
Single Function
(TD-702, -705, -708,
-715 & -716)**

Installation: Mount the appropriate octal socket (see table at right) in a suitable enclosure. Use one or two #12-22 solid or stranded wire with Macromatic sockets, with a recommended terminal tightening torque of 6-7 in-lbs (maximum of 12 in-lbs). Wire the socket per diagram on the side of the timer. Plug unit into socket.

Function	Number of Pins	Macromatic Socket
TD-702, TD-705 & TD-708	8	70169-D
TD-715, TD-716 & TD-781	11	70170-D

LED Indicator: Refer to the table below to determine unit status:

LED Status	Function				
	On Delay	Interval On	Off Delay	Single Shot	Flasher
Steady	Time Out; Relay ON	Time Out; Relay OFF	Voltage Applied/ Time Out; Relay OFF	Voltage Applied/ Time Out; Relay OFF	Timing OFF (1st); Relay OFF
Quick Flashing	Timing; Relay OFF	Timing, Relay ON	Trigger Open; Timing; Relay ON	Trigger Closed; Relay ON	Timing ON (2nd); Relay ON
Slow Flashing			Trigger Closed; Relay ON		

Troubleshooting: If the unit fails to operate properly, check that all connections are correct per the diagram on the side of the unit. Use the descriptions of how each function operates on back of this sheet as a guide to determine if the unit is operating properly. If problems continue, contact Macromatic at 800-238-7474 for assistance.

Warranty

All products manufactured by Macromatic are warranted to be free from defects in workmanship or material under normal service and use for a period of five (5) years from date of manufacture.



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Function	Wiring	Operation	Timing Chart
On Delay	Standard	Upon application of input voltage, the preset time begins. At the end of the preset time, the relay contacts transfer. Input voltage must be removed and reapplied to reset the time delay relay.	
Interval On	Standard	Upon application of input voltage, the relay contacts transfer and the preset time begins. At the end of the preset time, the contacts return to their normal condition. Input voltage must be removed and reapplied to reset the time delay relay.	
Single Shot	5-6 Trigger	Upon application of input voltage, the time delay relay is ready to accept trigger signals. Upon application of the trigger signal, the relay contacts transfer and the preset time begins. During time-out, the trigger signal is ignored. The time delay relay is reset by applying the trigger signal when the relay is not energized.	
Off Delay	5-6 Trigger	Upon application of input voltage, the time delay relay is ready to accept trigger signals. Upon application of the trigger signal, the relay contacts transfer and hold. Upon release of the trigger signal, the preset time begins. At the end of the preset time, the relay contacts return to their normal condition. Any application of the trigger signal will reset the time.	
Flasher	Standard	Upon application of the input voltage, the preset time (T1) begins. At the end of the preset time, the relay contacts transfer and remain in that condition for the preset time (T1). At the end of this time, the relay contacts drop out and the sequence repeats until input voltage is removed.	<p style="text-align: center;">ACTION CONTINUES UNTIL POWER IS REMOVED</p>