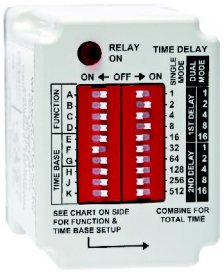
TIME DELAY RELAYS

TD-8 Series DIP-Switch Digital-Set Plug-in

Multi-Function Programmable



The TD-881 Series offers the digital-set accuracy of DIP-switch setting as well as the flexible programmability of a multi-function & multi-time range relay. These products provide an easy & accurate method to select any of 16 time delay functions and any time delay between 100ms and 1,023 hours. Programming is accomplished through the use of two 10-position DIP-switches. This product can literally replace hundreds of different catalog numbers, thereby reducing inventory requirements.

- 16 functions in one unit
- DIP-Switches for accurate digital set of time delay & selection of function
- 100ms - 1,023 hours programmable time delay
- Uses industry-standard 11 pin octal socket

The following functions are available:

Single Mode

- On Delay
- Flasher (OFF 1st)
- Off Delay
- Watchdog
- Triggered On Delay
- Interval On
- Flasher (ON 1st)
- Single Shot
- Single Shot (Trailing Edge)

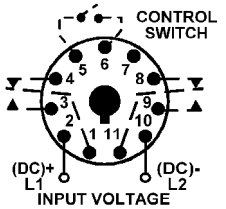
Dual Mode

- Repeat Cycle (OFF 1st)
- Delayed Interval
- On Delay/Off Delay
- On Delay/Flasher
- Repeat Cycle (ON 1st)
- Triggered Delayed Interval
- Single Shot-Flasher

(Pending)

with appropriate socket

See Page 3 for instructions on how to program functions & time delay.

FUNCTION n	INPUT VOLTAGE	PRODUCT NUMBER	WIRING/ SOCKETS
MULTI-FUNCTION (16 Field-Selectable Functions in one unit)	120V AC/DC 12V AC/DC 24V AC/DC 240V AC	TD-88122 TD-88126 TD-88128 TD-88121	11 PIN OCTAL **70170-D** 

n See Page 4 for definitions & explanations of Timing Functions.

Application Data & Dimensions–Page 3

MACROMATIC

800-238-7474

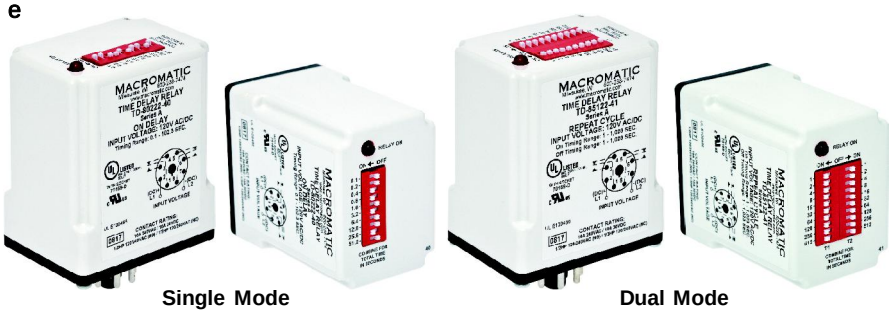
www.macromatic.com

sales@macromatic.com

TIME DELAY RELAYS

TD-8 Series DIP-Switch Digital-Set Plug-in

Single Function Programmable

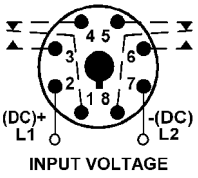


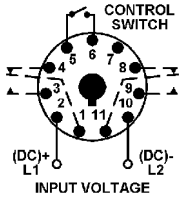
Single Mode **Dual Mode**

- DIP-Switches for accurate digital set of time delay
- 100ms - 1,023 minute programmable time delay
- Uses industry-standard 8 or 11 pin octal sockets
- 10A DPDT output contacts
- LED indicates relay status
- c UL us CE (Pending) UL LISTED with appropriate socket

The TD-8 Series time delay relays offer an easy & accurate method to select any time delay between 100ms & 1,023 minutes. Programming is accomplished through the use of a 10-position DIP-switch. Each position is marked with a binary time increment. The required delay is selected by moving the switch of each increment to the ON position & adding their corresponding values (see examples below). This method provides a greater setting accuracy than is found on other units with an analog potentiometer. An LED indicates relay status.

FUNCTION SEE PAGE 4 FOR DEFINITIONS OF TIMING FUNCTIONS	INPUT VOLTAGE 50/60Hz.	PRODUCT NUMBER ** COMPLETE PRODUCT NUMBER USING 2 DIGIT CODE FROM TABLE BELOW	WIRING/ SOCKETS
ON DELAY	120V AC/DC 12V AC/DC 24V AC/DC 240V AC	TD-80222-** TD-80226-** TD-80228-** TD-80221-**	8 PIN OCTAL **70169-D**
INTERVAL ON	120V AC/DC 12V AC/DC 24V AC/DC 240V AC	TD-80522-** TD-80526-** TD-80528-** TD-80521-**	
REPEAT CYCLE * (OFF Time First Followed By ON Time and Repeating)	120V AC/DC 12V AC/DC 24V AC/DC 240V AC	TD-83122-** TD-83126-** TD-83128-** TD-83121-**	
REPEAT CYCLE * (ON Time First Followed By OFF Time and Repeating)	120V AC/DC 12V AC/DC 24V AC/DC 240V AC	TD-85122-** TD-85126-** TD-85128-** TD-85121-**	
OFF DELAY Control Switch Trigger	120V AC/DC 12V AC/DC 24V AC/DC 240V AC	TD-81622-** TD-81626-** TD-81628-** TD-81621-**	11 PIN OCTAL **70170-D**
SINGLE SHOT Control Switch Trigger	120V AC/DC 12V AC/DC 24V AC/DC 240V AC	TD-81522-** TD-81526-** TD-81528-** TD-81521-**	



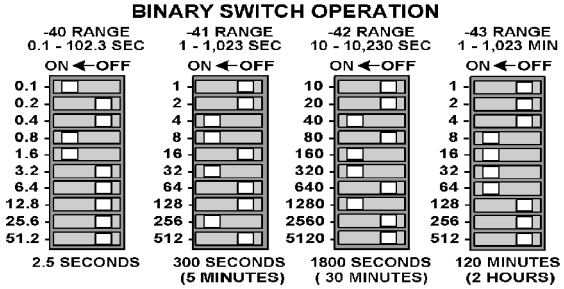


* ON & OFF Time Ranges are the same. For different ON & OFF time ranges, contact Macromatic.

Application Data & Dimensions–Page 3

Timing Ranges

** TIMING RANGE TABLE COMPLETE PRODUCT NUMBER USING TWO DIGIT CODE BELOW: i.e., TD-80222-40	
Time Delay Range	Code
0.1 - 102.3 Sec.	40
1 - 1,023 Sec.	41
10 - 10,230 Sec.	42
1 - 1,023 Min.	43



MACROMATIC

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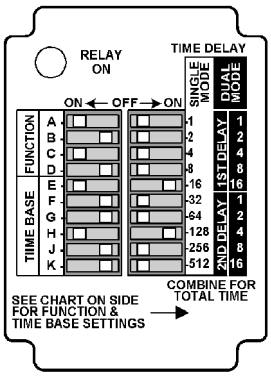
Programming Function & Time Delay (TD-881 Series Multi-Function Only)

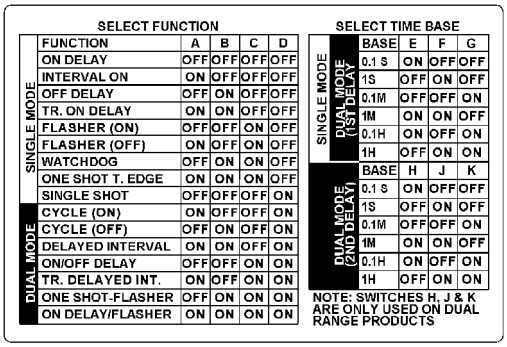
Programming is accomplished through the use of two 10-position DIP-switches (see drawings at right). Switches A-D of the left-mounted DIP-switch are used to select a function (see the descriptions of how each function operates on Page 4 as a guide). Switches E-K of the same DIP-switch are used to select the time base. A convenient chart is on the side of the relay to clearly illustrate how to set both the function & time base.

The right-mounted 10-position DIP-switch is used to select the time delay within the time base selected with switches E-K from the first DIP-switch. Each position on the second DIP-switch is marked with a binary time increment. The required delay is selected by moving the switch of each increment to the ON position & adding their corresponding values (see right). Note that dual mode products can either have the same or different ON & OFF times.

Top Image



Side Nameplate



SELECT FUNCTION

	FUNCTION	A	B	C	D
SINGLE MODE	ON DELAY	OFF	OFF	OFF	OFF
	INTERVAL ON	ON	OFF	OFF	OFF
	OFF DELAY	OFF	ON	OFF	OFF
	TR. ON DELAY	ON	ON	OFF	OFF
	FLASHER (ON)	OFF	OFF	ON	OFF
	FLASHER (OFF)	ON	OFF	ON	OFF
	WATCHDOG	OFF	ON	ON	OFF
	ONE SHOT T. EDGE	ON	ON	ON	OFF
DUAL MODE	SINGLE SHOT	OFF	OFF	OFF	ON
	CYCLE (ON)	ON	OFF	OFF	ON
	CYCLE (OFF)	OFF	ON	OFF	ON
	DELAYED INTERVAL	ON	ON	OFF	ON
	ON/OFF DELAY	OFF	OFF	ON	ON
	TR. DELAYED INT.	ON	OFF	ON	ON
	ONE SHOT-FLASHER	OFF	ON	ON	ON
	ON DELAY/FLASHER	ON	ON	ON	ON

SELECT TIME BASE

	BASE	E	F	G
SINGLE MODE / DUAL MODE (1ST DELAY)	0.1 S	ON	OFF	OFF
	1S	OFF	ON	OFF
	0.1M	OFF	OFF	ON
	1M	ON	ON	OFF
	0.1H	ON	OFF	ON
	1H	OFF	ON	ON

	BASE	H	J	K
DUAL MODE (2ND DELAY)	0.1 S	ON	OFF	OFF
	1S	OFF	ON	OFF
	0.1M	OFF	OFF	ON
	1M	ON	ON	OFF
	0.1H	ON	OFF	ON
	1H	OFF	ON	ON

NOTE: SWITCHES H, J & K ARE ONLY USED ON DUAL RANGE PRODUCTS

Application Data

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

Load (Burden): 2 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:
All Functions Triggered by a Control Switch: 0.04 Seconds
All Other Functions: 0.1 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

Insulation Voltage: 2,000 volts

Temperature: -28º to 65ºC (-18º to 150ºF)

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 Macromatic Controls for additional information.

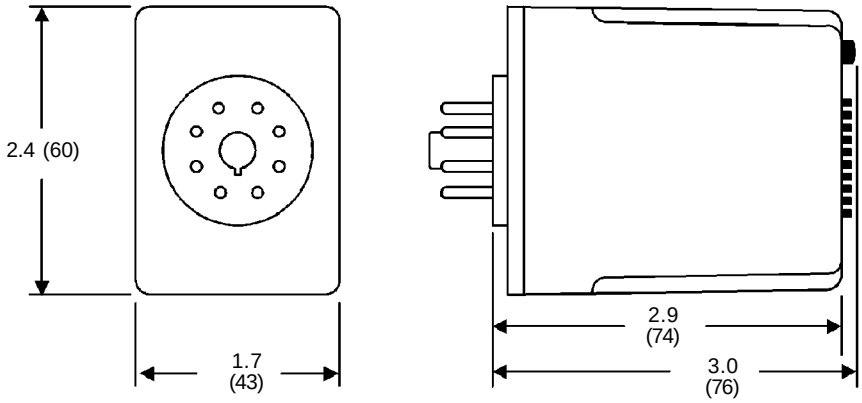
Control Switch Triggered Units:
Minimum required trigger switch closure time is 0.02 seconds.

Approvals:
c UL us
File #E109466

CE
Low Voltage & EMC Directives
EN60947-1, EN60947-5-1
(Pending)

UL LISTED IND. CONT. EQUIP. 50U7
with appropriate socket
File #E109466

Dimensions



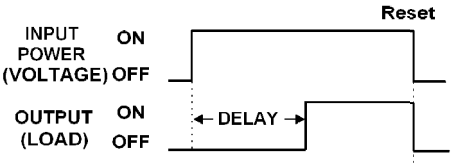
All Dimensions in Inches (Millimeters)

TIME DELAY RELAYS

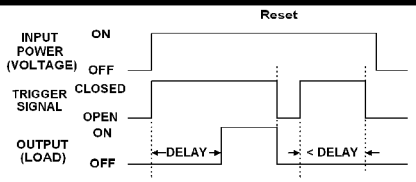
TD-8 Series DIP-Switch Digital-Set Plug-in

Definition of Timing Functions

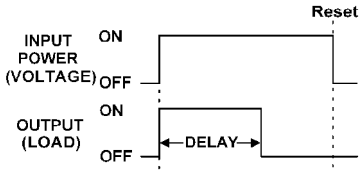
ON DELAY



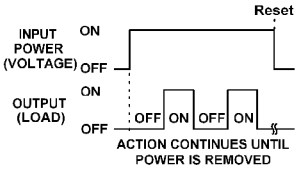
TRIGGERED ON DELAY



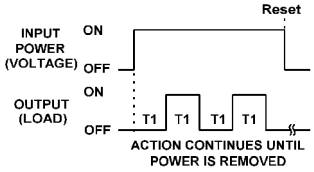
INTERVAL ON



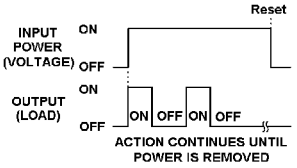
REPEAT CYCLE (OFF 1ST)



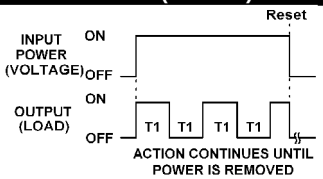
FLASHER (OFF 1ST)



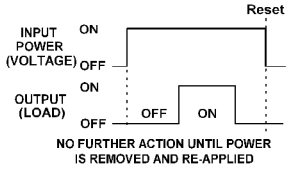
REPEAT CYCLE (ON 1ST)



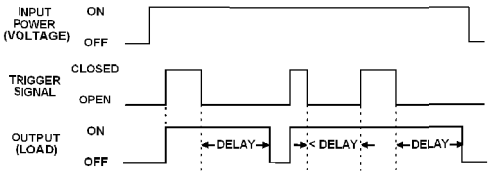
FLASHER (ON 1ST)



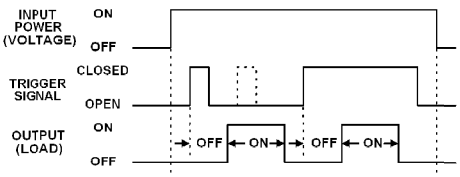
DELAYED INTERVAL



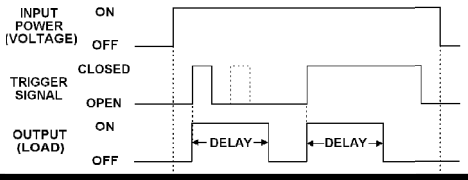
OFF DELAY



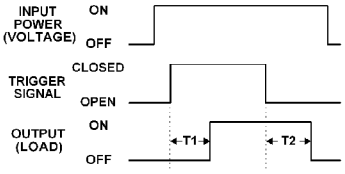
TRIGGERED DELAYED INTERVAL



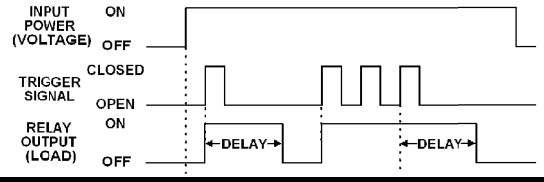
SINGLE SHOT



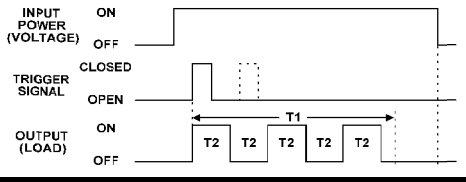
ON DELAY/OFF DELAY



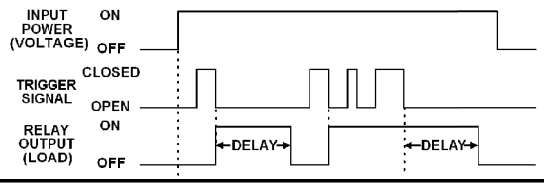
WATCHDOG



ONE (SINGLE) SHOT-FLASHER



ONE (SINGLE) SHOT (TRAILING EDGE)



ON DELAY/FLASHER