

Recycling (Flasher) TSD3 Digi-Timer Timing Module



- Exact Equal ON and OFF Delays
- +/-0.1% Repeat Accuracy
- +/-1% Stability Over Temperature & Voltage
- Fixed or Adjustable Delays From 0.2 s... 10,000 m
- 24, 120, or 230 V AC

Description

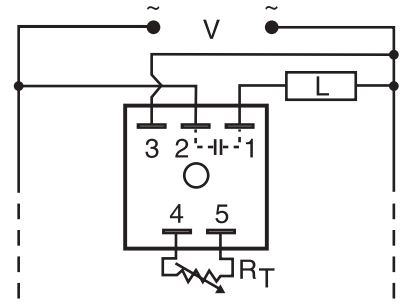
The TSD3 has a unique function of ON/OFF recycling with ON time always equal to the OFF time. When time delay is changed by the potentiometer, both the ON and the OFF periods change exactly.

Operation

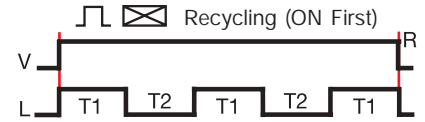
Upon application of input voltage, the output is energized and the ON time begins. At the end of the ON time, the output de-energizes and the OFF time begins. At the end of the OFF time, the output is energized and the cycle repeats as long as input voltage is applied. The OFF time may be the first delay in some recycling timers.

Reset: Removing input voltage resets the output and time delays, and returns the sequence to the first delay.

Approvals:



R_T is used when external adjustment is ordered.



V = Voltage R = Reset L = Load
T1 = ON Time T2 = OFF Time

Ordering Table

TSD3 Series	X Input	X Adjustment	X Time Delay *	
	-2 - 24 V AC	-1 - Fixed	-0 - 0.2 ... 10 s	*If Fixed Delay is selected, insert delay [0.2...1000] followed by (S) sec. or [0.1 ... 10000] (M) min.
	-4 - 120 V AC	-2 - External Adjust	-1 - 1 ... 100 s	
	-6 - 230 V AC		-2 - 10 ... 1000 s	
			-3 - 0.1 ... 10 m	
			-4 - 1 ... 100 m	
			-5 - 10 ... 1000 m	
			-6 - 100 ... 10,000 m	

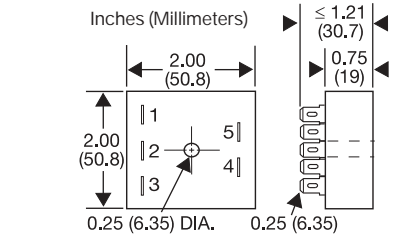
Example P/N: **TSD3421**
Fixed - **TSD3410.5S**

Desired Time Delay*							R _T
Seconds			Minutes				
0	1	2	3	4	5	6	Megohm
0.2	1	10	0.1	1	10	100	0.0
1	10	100	1	10	100	1000	0.1
2	20	200	2	20	200	2000	0.2
3	30	300	3	30	300	3000	0.3
4	40	400	4	40	400	4000	0.4
5	50	500	5	50	500	5000	0.5
6	60	600	6	60	600	6000	0.6
7	70	700	7	70	700	7000	0.7
8	80	800	8	80	800	8000	0.8
9	90	900	9	90	900	9000	0.9
10	100	1000	10	100	1000	10000	1.0

* When selecting an external R_T add at least 11% for tolerance of unit and the R_T.

Technical Data

Time Delay	
Type	Digital integrated circuit
Range	0.2 s ... 10,000 m in 7 adjustable ranges or fixed
Repeat Accuracy	+/-0.1% or 16 ms, whichever is greater
Tolerance (Factory Calibration)	≤ +/-1%, ON to OFF time +/-0%
Recycle Time	≤150 ms
Time Delay vs. Temperature & Voltage	≤ +/-1%
Input	
Voltage	24, 120, or 230 V AC
Tolerance	+/-20%
Line Frequency	50 ... 60 Hz
Output	
Type	Solid state
Maximum Load Current	1 A steady state, 10 A inrush at 55°C
Minimum Holding Current	≤40 mA (Normally Open)
Voltage Drop	≅ 2.5 V at 1 A
Protection	
Circuitry	Encapsulated
Dielectric Breakdown	≥ 2000 V RMS terminals to mounting surface
Insulation Resistance	≥ 100 MΩ
Mechanical	
Mounting	Surface mount with one #10 (M5 x 0.8) screw
Package	2 x 2 x 1.21 in. (50.8 x 50.8 x 30.7 mm)
Termination	0.25 in. (6.35 mm) male quick connect terminals
Environmental	
Operating Temperature	-40°C ... +75°C
Storage Temperature	-40°C ... +85°C
Humidity	95% relative, non-condensing
Weight	≅ 2.4 oz (68 g)



Accessories

Mounting bracket
P/N: P1023-6

External adjust potentiometer
P/Ns: P1004-16 (fig A) P1004-16-X (fig B)

Female quick connect
P/N: P1015-64(AWG 14/16)

Plug-on adjustment module
P/N: VTP(X)(X)

Quick connect to screw adaptor
P/N: P1015-18

Versa-knob
P/N: P0700-7

DIN rail adaptor
P/N: P1023-20

DIN rail P/Ns: C103PM (A) 17322005 (Steel)

Time Delay	VTP P/N
0 - 0.2 ... 10 s	VTP2C
1 - 1 ... 100 s	VTP2G
2 - 10 ... 1000 s	VTP2K
3 - 0.1 ... 10 m	VTP2N
4 - 1 ... 100 m	VTP2P
5 - 10 ... 1000 m	VTP2R
6 - 100 ... 10,000 m	VTP2R

See accessory pages at the end of this section.