

# Interval (Single Pulse On Operate) TSD2 Digi-Timer Timing Module



## Description

Digi-Time utilizes a stable oscillator and C/MOS digital counting circuitry to provide excellent repeat accuracy, stability over temperature, and voltage variations. Its solid state output provides long reliable life even in the most rigorous applications.

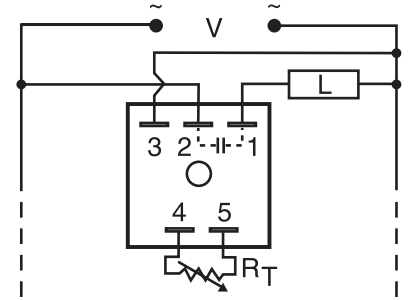
## Operation

Upon application of input voltage, the time delay begins. The output is energized during the time delay. At the end of the time delay, the output is de-energized and remains de-energized until input voltage is removed.

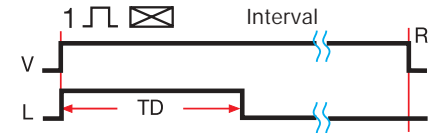
**Reset:** Removing input voltage resets the time delay and the output.

- +/-0.1% Repeat Accuracy
- +/-1% Stability Over Voltage & Temperature
- Fixed or Adjustable Delays From 0.2 s ... 10,000 m
- 24, 120, or 230 V AC
- Totally Solid State & Encapsulated

Approvals:



R<sub>T</sub> is used when external adjustment is ordered.



V = Voltage L = Load R = Reset  
TD = Time Delay — = Undefined time

## Ordering Table

Series	Input	Adjustment	Time Delay*
<b>2</b>	24 V AC	<b>1</b> - Fixed	<b>0</b> - 0.2 ... 10 s
<b>4</b>	120 V AC	<b>2</b> - External Adjust	<b>1</b> - 1 ... 100 s
<b>6</b>	230 V AC		<b>2</b> - 10 ... 1000 s
			<b>3</b> - 0.1 ... 10 m
			<b>4</b> - 1 ... 100 m
			<b>5</b> - 10 ... 1000 m
			<b>6</b> - 100 ... 10,000 m

\*If Fixed Delay is selected, insert delay [0.2 ... 1000] followed by (S) secs. or [0.1 ... 10000] (M) mins.

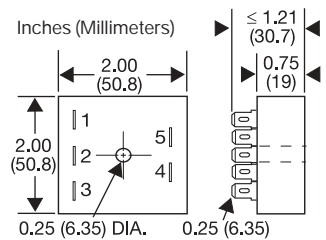
Example P/N: **TSD2421**  
Fixed - **TSD24160M**

## Technical Data

Time Delay	
Type	Digital integrated circuitry
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%
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
Form	Normally Open, closed during timing
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)

Desired Time Delay*								R <sub>T</sub> Megohm
Seconds				Minutes				
0	1	2	3	4	5	6		
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<sub>T</sub> add at least 11% for tolerance of unit and the R<sub>T</sub>.



## Accessories

<p>Mounting bracket P/N: P1023-6</p>	<p>External adjust potentiometer P/Ns: P1004-16 (fig A) P1004-16-X (fig B)</p>
<p>Female quick connect P/N: P1015-64 (AWG 14/16)</p>	<p>Plug-on adjustment module P/N: VTP(X)(X)</p>
<p>Quick connect to screw adaptor P/N: P1015-18</p>	<p>DIN rail P/Ns: C103PM (Al) 17322005 (Steel)</p>
<p>Versa-knob P/N: P0700-7</p>	<p>DIN rail adaptor P/N: P1023-20</p>

See accessory pages at the end of this section.

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