

# Delay On Make - Normally Closed TSD4 Digi-Timer Timing Module



### Description

The TSD4 Digi-Timer is a delay-on-make timer with a normally closed solid state output. Unlike an interval timer, the load is energized prior to and during the delay period.

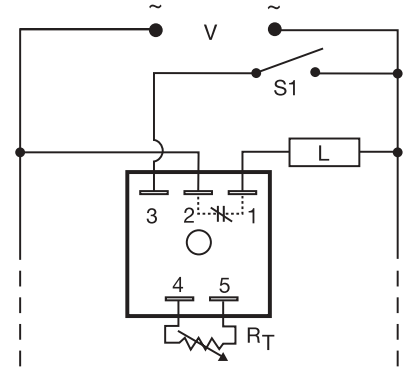
### Operation

Upon application of input voltage, the load is energized immediately. When the initiate switch is closed, the time delay begins. At the end of the time delay, the load is de-energized.

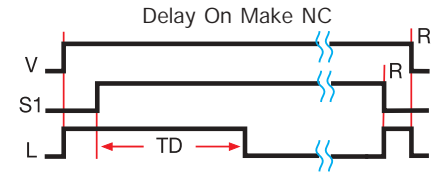
**Reset:** When the initiate switch is reopened, the load is again energized and the time delay is reset. Removing input voltage resets the time delay.

- Load Energized Prior To and During Time Delay
- Fixed or Adjustable Delays From 0.2 s ... 10,000 m
- 24, 120, or 230 V AC
- +/-0.1% Repeat Accuracy
- +/-1% Stability Over Voltage & Temperature

Approvals:



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



V = Voltage S1 = Initiate Switch L = Load  
R = Reset TD = Time Delay  
--- = Undefined time

### Ordering Table

TSD4 Series	Input	Adjustment	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) secs. or [0.1 ... 10000] (M) mins.
-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: TSD4421 Fixed - TSD44160M

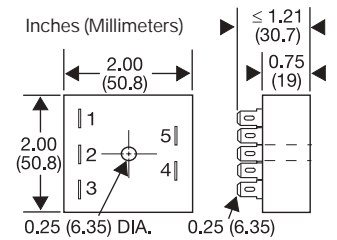
### Technical Data

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 Closed, closed before & during timing
Maximum Load Current	1 A steady state, 10 A inrush at 55°C
Minimum Holding Current	≤40 mA
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)

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

R <sub>T</sub> Selection Chart							
Desired Time Delay*							
Seconds			Minutes			R <sub>T</sub>	Megohm
0	1	2	3	4	5		
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

- 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 (Al)  
17322005 (Steel)

See accessory pages at the end of this section.