# Interval (Single Pulse On Operate) TSD6 Digi-Timer Timing Module

- 12 or 24 V DC Interval Timing
- +/-0.1% Repeat Accuracy
- Fixed or Adjustable Delays From 0.2 s... 10,000 m
- Excellent Accuracy Over Temperature & Voltage
- Totally Solid State & Encapsulated
- Load Currents to 1 A, 10 A Inrush

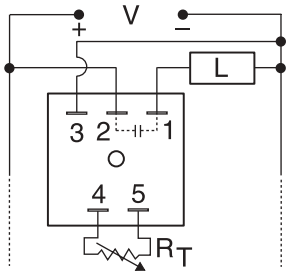
## Description

The TSD6 offers total solid state interval timing for 12 or 24 V DC applications. This series provides either negative or positive switching.

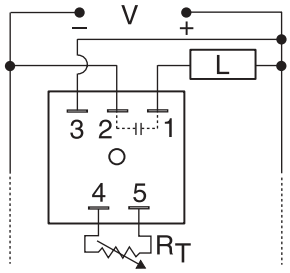
## Operation

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.

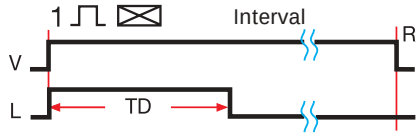



Positive Switching




Negative Switching

$R_T$ is used when external adjustment is ordered.




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

## Ordering Table

| TSD6 Series | X Input | X Adjustment | X Time Delay * | X Switching Mode |
|---|---|---|---|---|
| | **1** - 12 V DC | **1** - Fixed | **0** - 0.2 ... 10 s | **P** - Positive |
| | **3** - 24 V DC | **2** - External Adjust | **1** - 1 ... 100 s | **N** - Negative |
| | | | **2** - 10 ... 1000 s | |
| | | | **3** - 0.1 ... 10 m | |
| | | | **4** - 1 ... 100 m | |
| | | | **5** - 10 ... 1000 m | |
| | | | **6** - 100 ... 10,000 m | |

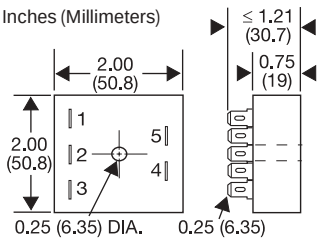
**Example P/N:** **TSD6320P**
Fixed – **TSD61160MN**

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

## 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% |
| Tolerance (Factory Calibration) | ≤+/-1% |
| Recycle Time | ≤150 ms |
| Time Delay vs. Temperature & Voltage | ≤+/-1% |
| **Input** | |
| Voltage | 12 or 24 V DC |
| Tolerance | +/-15% |
| Ripple | +/-10% |
| **Output** | |
| Type | Solid state |
| Form | Normally Open, closed during timing |
| Maximum Load Current | 1 A steady state, 10 A inrush at 60°C |
| Voltage Drop | ≅ 1.0 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 ... +80°C |
| Storage Temperature | -40°C ... +85°C |
| Humidity | 95% relative, non-condensing |
| Weight | ≅ 2.4 oz (68 g) |

Inches (Millimeters)



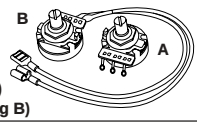

| Time Delay | VTP P/N |
|---|---|
| **0** – 0.2 ... 10 s | VTP2C |
| **1** – 1 ... 100 s | VTP2G |
| **2** – 10 ... 1000 s | VTP2K |
| **3** – 0.1 ... 10 m | VTP2N |
| **4** – 1 ... 100 m | VTP2P |
| **5** – 10 ... 1000 m | VTP2R |
| **6** –100 ... 10,000 m | VTP2R |

| $R_T$ Selection Chart | | | | | | | |
|---|---|---|---|---|---|---|---|
| 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 $R_T$.

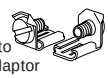
## Accessories

Mounting bracket
**P/N: P1023-6**



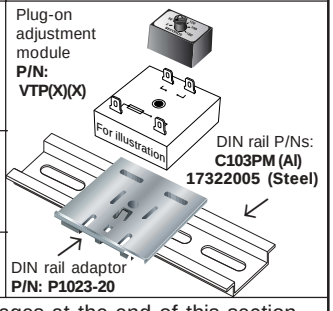

External adjust potentiometer
**P/Ns:**
**P1004-16 (fig A)**
**P1004-16-X (fig B)**

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



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

Versa-knob
**P/N: P0700-7**




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

DIN rail P/Ns:
**C103PM (Al)**
**17322005 (Steel)**

DIN rail adaptor
**P/N: P1023-20**

See accessory pages at the end of this section.