

Single Shot (Pulse Former)

TSDS Digi-Timer

Timing Module



- Fixed or Adjustable Delays
0.1 s...1000 m in 6 Ranges
- +/-0.5% Repeat Accuracy
- +/-1% Factory Calibration
- 12 VDC...230 VAC in 5 Ranges
- 1 A Solid State Output
- Encapsulated

Approvals:

Accessories

B External adjust potentiometer
P/Ns:
P1004-95 (fig A)
P1004-95-X (fig B)

Mounting bracket
P/N: P1023-6

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

DIN rail adaptor
P/N: P1023-20

DIN rail P/Ns:
C103PM (AI)

See accessory pages for specifications.

Description

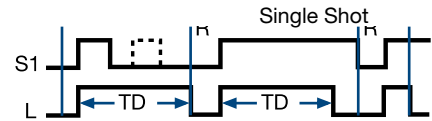
The TSD Series is designed for more demanding commercial and industrial applications where small size, and accurate performance is required. The factory calibration for fixed time delays is within 1% of the target time delay. The repeat accuracy, under stable conditions, is 0.5% of the time delay. The TSD Series is rated to operate over an extended temperature range. Time delays of 0.1 seconds to 1000 minutes are available. The output is rated 1 A steady and 10 A inrush. The modules are totally solid state and encapsulated to protect the electronic circuitry. This product is suitable for many applications, including dispensing, welding, and exposure timing.

Operation

Input voltage must be applied before and during timing. Upon momentary or maintained closure of the initiate switch, the output energizes for a measured interval of time. At the end of the delay, the output de-energizes. Opening or reclosing the initiate switch during timing has no effect on the time delay. The output will not energize if the initiate switch is closed when input voltage is applied.

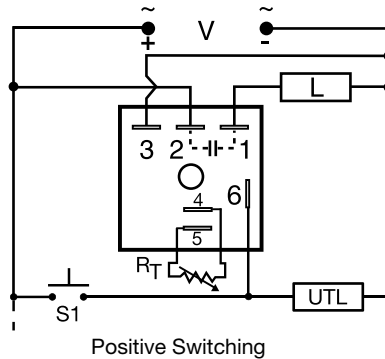
Reset: Reset occurs when the time delay is complete and the initiate switch is opened. Loss of input voltage resets the time delay and output.

Function

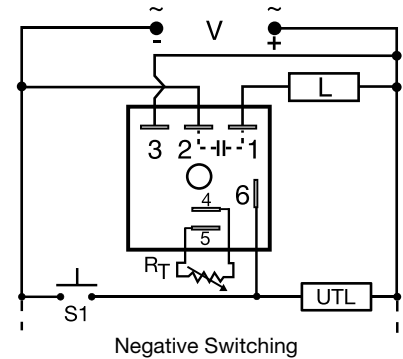


V = Voltage L = Load TD = Time Delay
S1 = Initiate Switch R = Reset

Connection



Positive Switching



Negative Switching

RT is used when external adjustment is ordered.
Dashed lines are internal connections.

L = Timed Load UTL = Optional Untimed Load S1 = Initiate Switch

Available Models-

TSDS11180SP
TSDS2110S
TSDS4110S
TSDS6110S

TSDS11390SP
TSDS320N
TSDS4120S

TSDS131P
TSDS320P
TSDS421

Don't see what you need? Call us for a minimum quantity and price quote!

Ordering Table

TSDS
Series

X
Input
-1 - 12 V DC
-2 - 24 V AC
-3 - 24 V DC
-4 - 120 V AC
-6 - 230 V AC

X
Adjustment
-1 - Fixed
-2 - External Adjust
-3 - Onboard Adjust

X
Time Delay*
-0 - 0.1 ... 10 s
-1 - 1 ... 100 s
-2 - 10 ... 1000 s
-3 - 0.1 ... 10 m
-4 - 1 ... 100 m
-5 - 10 ... 1000 m

X
Switching Mode
(V DC Only)
-P - Positive
-N - Negative

Example P/N: **TSDS421** Fixed - **TSDS310.1SP**

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

Single Shot (Pulse Former)

TSDS Digi-Timer

Timing Module

Dedicated
timers

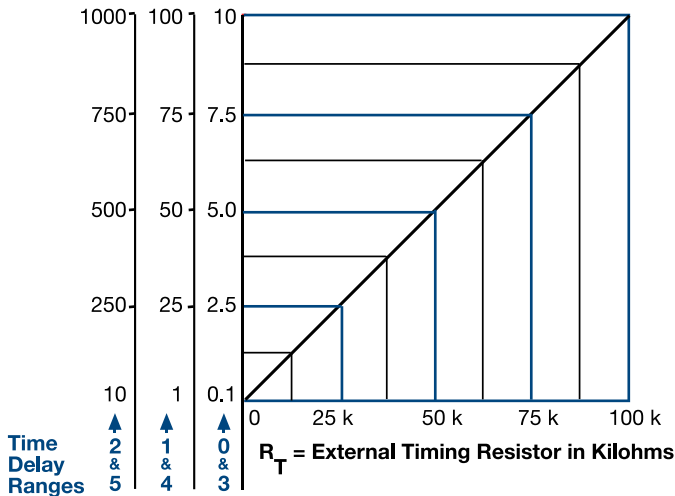
Technical Data

Time Delay	
Range	0.1 s ... 1000 m in 6 adjustable ranges or fixed
Repeat Accuracy	+/-0.5% or 20 ms, whichever is greater
Tolerance (Factory Calibration)	≤ +/-1%
Reset Time	≤ 150 ms
Initiate Time	≤ 20 ms
Time Delay vs. Temperature & Voltage	≤ +/-2%
Input	
Voltage	12 or 24 V DC; 24, 120, or 230 V AC
Tolerance	+/-15%
Power Consumption	AC ≤ 2 VA; DC ≤ 1 W
Line Frequency	50 ... 60 Hz
DC 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	AC ≅ 2.5 V at 1 A; DC ≅ 1 V at 1 A
Off State Leakage Current	AC ≅ 5 mA at 230 V AC; DC ≅ 1 mA
DC Operation	Positive or negative switching
Protection	
Circuitry	Encapsulated
Dielectric Breakdown	≥ 2000 V RMS terminals to mounting surface
Insulation Resistance	≥ 100 MΩ
Polarity	DC units are reverse polarity protected
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/Storage Temperature	-40°C ... +75°C / -40°C ... +85°C
Humidity	95% relative, non-condensing
Weight	≅ 2.4 oz (68 g)

5

External Resistance vs Time Delay

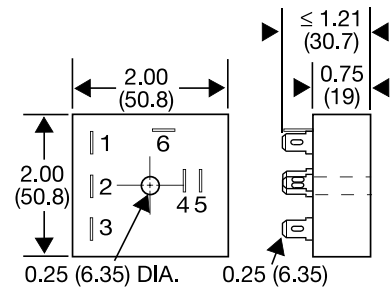
In Secs. or Mins.



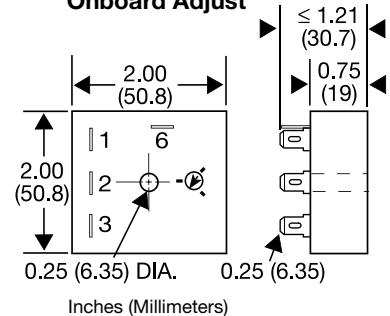
This chart applies to externally adjustable part numbers.
 The time delay is adjustable over the time delay range selected by varying the resistance across the R_T terminals; as the resistance increases the time delay increases.
 When selecting an external R_T , add the tolerances of the timer and the R_T for the full time range adjustment.
Examples: 1 to 50 S adjustable time delay, select time delay range 1 and a 50 K ohm R_T . For 1 to 100 S use a 100 K ohm R_T .

Mechanical View

Fixed and External Adjust



Onboard Adjust



TSDSGen 08.10