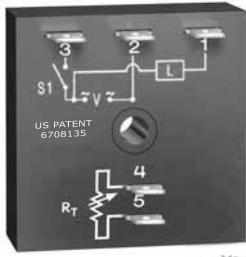


# Delay On Make - Normally Closed TSD4 Digi-Timer Timing Module

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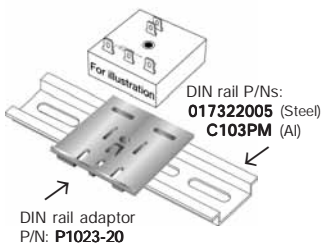
10 YEAR WARRANTY

- Fixed or Adjustable Delays From 0.1 s ... 100 h
- 24, 120, or 230 V AC
- +/-0.1% Repeat Accuracy
- +/-1% Factory Calibration
- 1A Solid State Output
- Encapsulated

Approvals:

### Accessories

- 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**



See accessory pages for specifications.

### Description

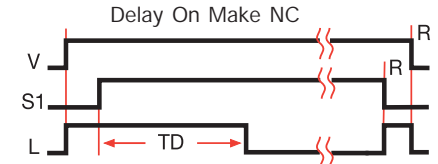
The TSD4 Digi-Timer is a delay on make timer with a normally closed solid state output. The load is energized prior to and during the delay period. The TSD Series is designed for more demanding commercial and industrial applications where small size, and accurate performance is required. The factory calibration for fixed time delays is within 1% of the target time delay. The repeat accuracy, under stable conditions, is 0.1% of the time delay. The TSD Series is rated to operate over an extended temperature range. Time delays of 0.1 seconds to 100 hours 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.

### Operation

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

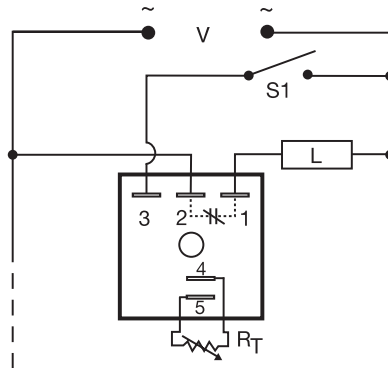
**Reset:** When the initiate switch is reopened, the load energizes again and the time delay is reset. Removing input voltage resets the time delay.

### Function



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

### Connection



$R_T$  is used when external adjustment is ordered.  
Dashed lines are internal connections.  
S1 = Initiate Switch

### Ordering Table

TSD4 Series	X Input	X Adjustment	X Time Delay*
	-2 - 24 V AC	-1 - Fixed	-0 - 0.1 ... 10 s
	-4 - 120 V AC	-2 - External Adjust	-1 - 1 ... 100 s
	-6 - 230 V AC	-3 - Onboard Adjust	-2 - 10 ... 1000 s
			-3 - 0.1 ... 10 m
			-4 - 1 ... 100 m
			-5 - 10 ... 1000 m
			-6 - 1 ... 100 h

Example P/N: **TSD4421** Fixed – **TSD4410.5S**

\*If Fixed Delay is selected, insert delay [0.1 ... 1000] followed by (S) secs. or (M) mins., [1 ... 100] (H) hrs

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

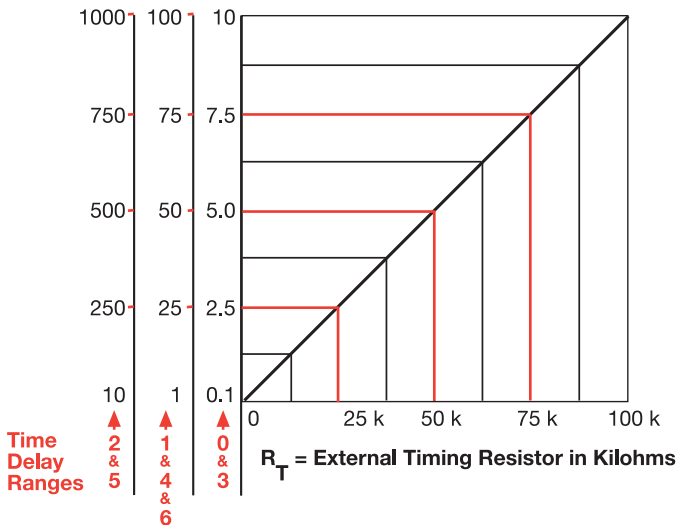
## Technical Data

<b>Time Delay</b> Range Repeat Accuracy Tolerance (Factory Calibration) Reset Time Time Delay vs. Temperature & Voltage	0.1 s ... 100 h in 7 adjustable ranges or fixed +/-0.1% or 20 ms, whichever is greater ≤ +/-1% ≤ 150 ms ≤ +/-1%
<b>Input</b> Voltage Tolerance Line Frequency Power Consumption	24, 120, or 230 V AC +/-20% 50 ... 60 Hz ≤ 2 VA
<b>Output</b> Type Form Maximum Load Current OFF State Leakage Current Voltage Drop	Solid state Normally Closed, closed before & during timing 1 A steady state, 10 A inrush at 60°C ≅ 5 mA at 230 V AC ≅ 2.5 V at 1 A
<b>Protection</b> Circuitry Dielectric Breakdown Insulation Resistance	Encapsulated ≥ 2000 V RMS terminals to mounting surface ≥ 100 MΩ
<b>Mechanical</b> Mounting Package Termination	Surface mount with one #10 (M5 x 0.8) screw 2 x 2 x 1.21 in. (50.8 x 50.8 x 30.7 mm) 0.25 in. (6.35 mm) male quick connect terminals
<b>Environmental</b> Operating Temperature Storage Temperature Humidity Weight	-40°C ... +75°C -40°C ... +85°C 95% relative, non-condensing ≅ 2.4 oz (68 g)

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## External Resistance vs Time Delay

In Secs., Mins., or Hours



This chart applies to externally adjustable part numbers.

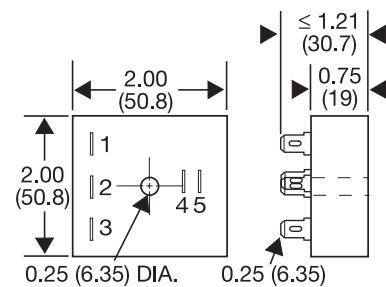
The time delay is adjustable over the time delay range selected by varying the resistance across the  $R_T$  terminals; as the resistance increases the time delay increases.

When selecting an external  $R_T$ , add the tolerances of the timer and the  $R_T$  for the full time range adjustment.

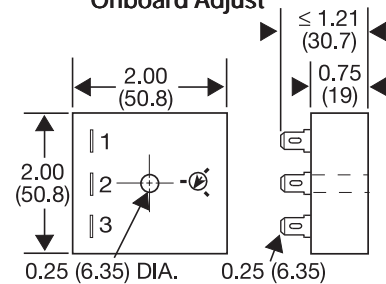
**Examples:** 1 to 50 S adjustable time delay, select time delay range 1 and a 50 K ohm  $R_T$ . For 1 to 100 S use a 100 K ohm  $R_T$ .

## Mechanical View

Fixed & External Adjust



Onboard Adjust



Inches (Millimeters)