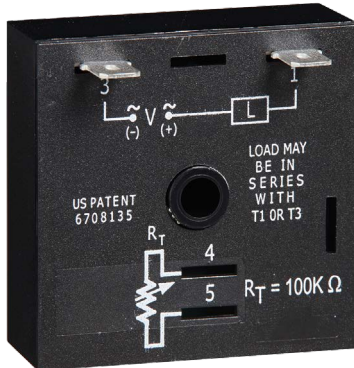
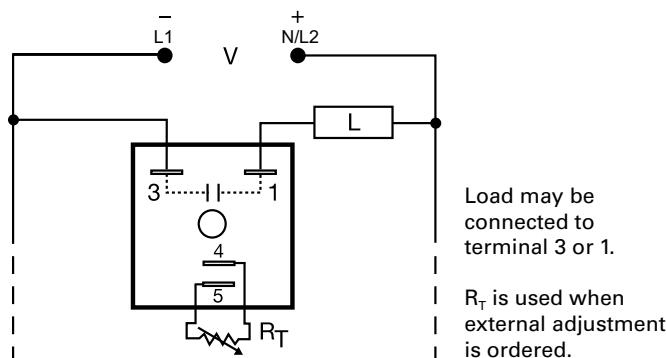


TSD1 SERIES

Delay-on-Make Timer



Wiring Diagram



Description

The TSD1 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 TSD1 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 1A steady and 10A inrush. The modules are totally solid state and encapsulated to protect the electronic circuitry.

Operation (Delay-on-Make)

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

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

Features & Benefits

| FEATURES | BENEFITS |
|---|--|
| Microcontroller based | Repeat Accuracy +/- 0.1%, +/- 1% time delay accuracy |
| Extended temperature range | Rated to 75°C operating temperature to withstand high heat applications. |
| Compact, low cost design | Allows flexibility for OEM applications |
| 1A Steady solid-state output, 10A inrush | Provides 100 million operations in typical conditions. |
| Totally solid state and encapsulated | No moving parts to arc and wear out over time and encapsulated to protect against shock, vibration, and humidity |

Accessories

P1004-95, P1004-95-X Versa-Pot
Panel mountable, industrial potentiometer recommended for remote time delay adjustment.

P1023-6 Mounting bracket
The 90° orientation of mounting slots makes installation/removal of modules quick and easy.

P0700-7 Versa-Knob
Designed for 0.25 in. (6.35 mm) shaft of Versa-Pot. Semi-gloss industrial black finish.

P1015-64 (AWG 14/16) Female Quick Connect
These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.

P1015-18 Quick Connect to Screw Adapter
Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.

Ordering Information

| MODEL | INPUT VOLTAGE | ADJUSTMENT | TIME DELAY |
|------------|---------------|------------|------------|
| TSD1311.2S | 24VDC | Fixed | 1.2s |
| TSD1321 | 24VDC | External | 1 - 100s |
| TSD1424 | 120VAC | External | 1 - 100m |

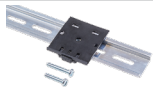
If you don't find the part you need, call us for a custom product 800-843-8848

TSD1 SERIES

Accessories

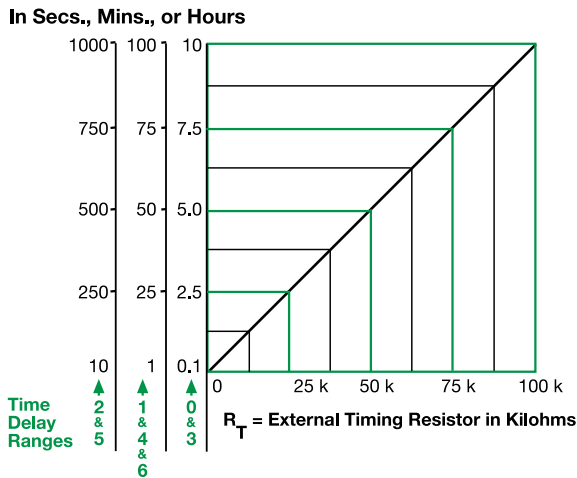


C103PM (AL) DIN Rail
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



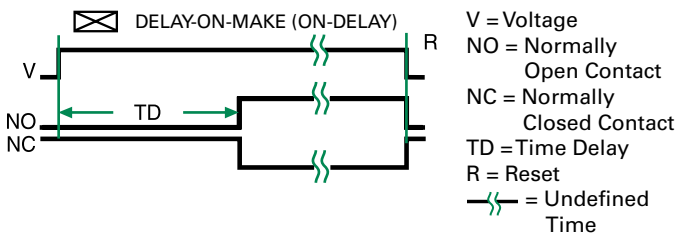
P1023-20 DIN Rail Adapter
Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

External Resistance vs. Time Delay



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 .

Function Diagram



Specifications

| | |
|--|--|
| Time Delay Range | 0.1s - 100h in 7 adjustable ranges or fixed |
| Repeat Accuracy Tolerance (Factory Calibration) | $\pm 0.1\%$ or 20ms, whichever is greater |
| Recycle Time | $\leq \pm 1\%$ |
| Time Delay vs. Temperature & Voltage | $\leq 150\text{ms}$ |
| Input Voltage | $\leq \pm 1\%$ |
| Tolerance | 12, 24, 120VDC; 24, 120, 230VAC |
| AC Line Frequency | $\pm 20\%$ |
| Output Type | 50/60 Hz |
| Form | Solid state |
| Maximum Load Current | NO, open during timing |
| Minimum Holding Current | 1A steady state, 10A inrush at 60°C |
| Off State Leakage Current | $\leq 40\text{mA}$ |
| Voltage Drop | $\approx 7\text{mA @ 230VAC}$ |
| Protection Circuitry | $\approx 2.5\text{V @ 1A}$ |
| Dielectric Breakdown | Encapsulated |
| Insulation Resistance | $\geq 2000\text{V RMS terminals to mounting surface}$ |
| Polarity | $\geq 100\text{M}\Omega$ |
| Mechanical Mounting | DC units are reverse polarity protected |
| Dimensions | Surface mount with one #10 (M5 x 0.8) screw H 50.8 mm (2"); W 50.8 mm (2"); D 30.7 mm (1.21") |
| Termination | 0.25 in. (6.35 mm) male quick connect terminals |
| Environmental Operating/Storage Temperature | -40° to 75°C / -40° to 85°C |
| Humidity | 95% relative, non-condensing |
| Weight | $\approx 2.4\text{ oz (68 g)}$ |