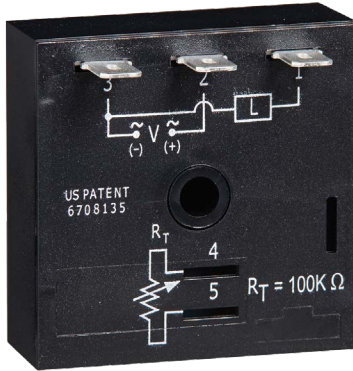
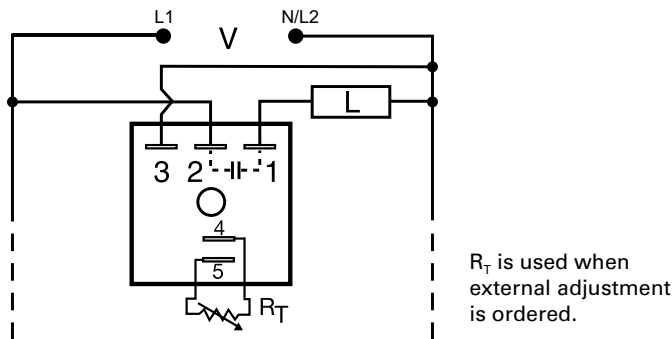


TSD3411S

Recycling Timer



Wiring Diagram



Description

The TSD3411S is a solid-state ON/OFF recycling timer with the on time always equal to the off time. When time delay is changed by the RT, both the ON and the OFF periods are changed. 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 TSD3411S 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 (Recycling Flasher - ON Time First)

Upon application of input voltage, the output energizes and the T1, ON time begins. At the end of the ON time, the output de-energizes and the T2 OFF time begins. At the end of the OFF time, the output energizes and the cycle repeats as long as input voltage is applied.

Reset: Removing input voltage resets the output and time delays, and returns the sequence to the T1 ON time.

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.



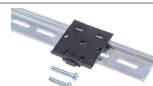
P1015-64 (AWG 14/16) Female Quick Connect
These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.



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.



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

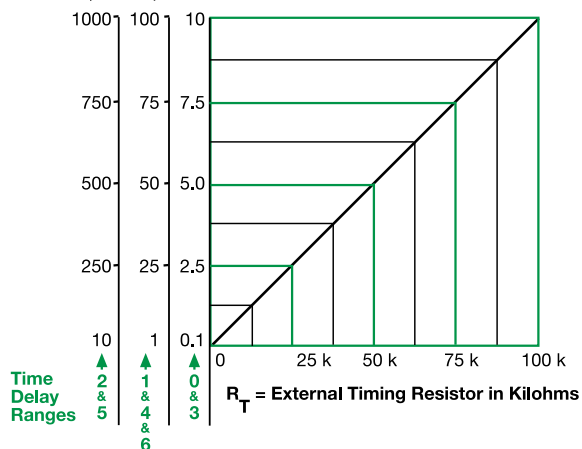


P1023-20 DIN Rail Adapter
Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

TSD3411S

External Resistance vs. Time Delay

In Secs., Mins., or Hours



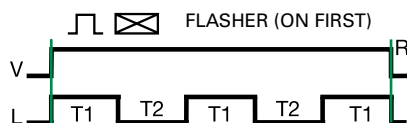
This chart applies to externally adjustable part numbers.

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 .

Function Diagram



V = Voltage
L = Load
T1 = ONTime
T2 = OFFTime
T1 \approx T2
R = Reset

ON time plus OFF time equals one complete flash.

Specifications

Time Delay

Range

0.1s - 100h in 7 adjustable ranges

Repeat Accuracy

$\pm 0.1\%$ or 20ms, whichever is greater

Tolerance

(Factory Calibration)

$\leq \pm 1\%$

Reset Time

$\leq 150\text{ms}$

Time Delay vs. Temperature & Voltage

$\leq \pm 1\%$

Input

Voltage

24, 120, or 230VAC

Tolerance

$\pm 20\%$

AC Line Frequency

50/60 Hz

Power Consumption

$\leq 2\text{VA}$

Output

Type

Solid state

Maximum Load Current

1A steady state, 10A inrush at 60°C

Off State Leakage Current

$\approx 5\text{mA}$ @ 230VAC

Voltage Drop

$\approx 2.5\text{V}$ @ 1A

Protection

Circuitry

Encapsulated

Dielectric Breakdown

$\geq 2000\text{V RMS}$ terminals to mounting surface

Insulation Resistance

$\geq 100\text{ M}\Omega$

Mechanical

Mounting

Surface mount with one #10 (M5 x 0.8) screw

Dimensions

H 50.8 mm (2"); **W** 50.8 mm (2");

D 30.7 mm (1.21")

0.25 in. (6.35 mm) male quick connect

Termination

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)

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