

THD3C42A0



Description

The THD3C42A0 combines accurate timing circuitry with high power, solid-state switching. It can switch motors, lamps, and heaters directly without a contactor. The THD3C42A0 has equal on and off time delays. A single R_T sets both time delays. You can reduce labor, component cost, and increase reliability with these small, easy-to-use, Digi-Power timers.

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.

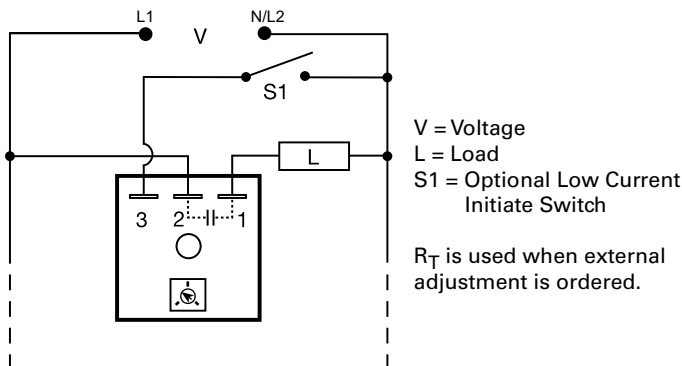
Reset: Removing input voltage resets the output and time delays, and returns the sequence to T1 ON time.

Operation (Recycling Flasher - OFF Time First)

Upon application of input voltage, the T2 OFF time begins. At the end of the OFF time, the T1 ON time begins and the load energizes. At the end of T1, T2 begins and the load de-energizes. This cycle repeats until input voltage is removed.

Reset: Removing input voltage resets the output and the sequence to T2 OFF time.

Wiring Diagram



Features & Benefits

FEATURES	BENEFITS
Microcontroller based	Repeat Accuracy + / - 0.5%, Factory calibration + / - 1%
Compact, low cost design	Allows flexibility for OEM applications and reduces labor and component costs
High load currents up to 20A, 200A inrush	Allows direct operation of motors, lamps, and heaters without a contactor
Totally solid state and encapsulated	No moving parts to arc and wear out over time and encapsulated to protect against shock, vibration, and humidity
Metalized mounting surface	Facilitates heat transfer in high current applications

Accessories



P1004-95, P1004-95-X Versa-Pot

Panel mountable, industrial potentiometer recommended for remote time delay adjustment.



P0700-7 Versa-Knob

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



P1015-13 (AWG 10/12), 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.

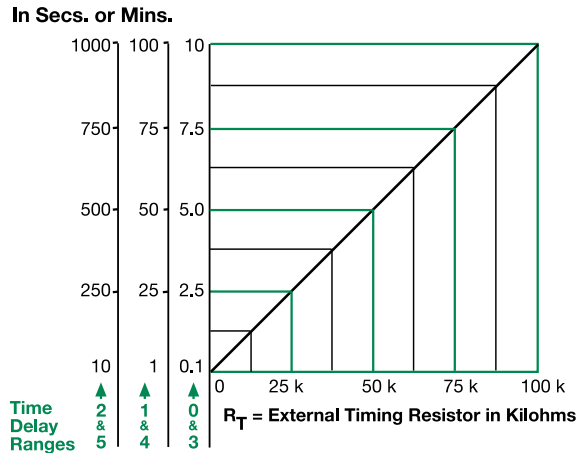


P1015-18 Quick Connect to Screw Adapter

Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.

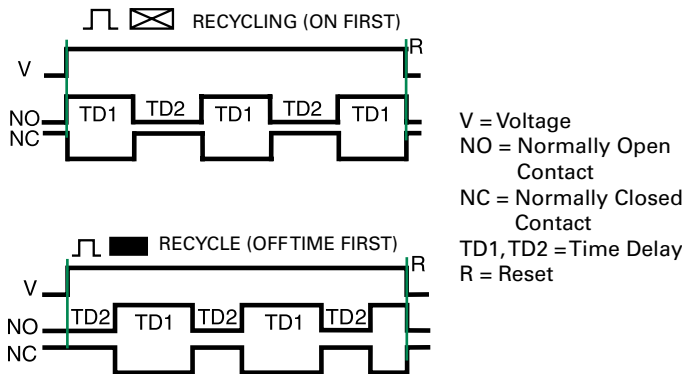
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External Resistance vs. Time Delay



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 Diagrams



Specifications

Time Delay Range Adjustment	0.1s - 1000m in 6 adjustable ranges or fixed Single variable resistor changes both the on & off times equally
Repeat Accuracy Tolerance (Factory Calibration)	±0.5% or 20ms, whichever is greater
Reset Time	≤ ±1%
Time Delay vs Temp. & Voltage	≤ 150ms
Input Voltage Tolerance	≤ ±2%
AC Line Frequency	24, 120, or 230VAC
Power Consumption	±20%
Output Type	50/60 Hz
Maximum Load Current	≤ 2VA
Minimum Load Current	Solid state
Voltage Drop	Steady State 20A
OFF State Leakage Current	Inrush** 200A
Protection Circuitry	100mA
Dielectric Breakdown	≅ 2.5V at rated current
Insulation Resistance	≅ 5mA @ 230VAC
Mechanical Mounting**	Encapsulated
Dimensions	≥ 2000V RMS terminals to mounting surface
Termination	≥ 100 MΩ
Environmental Operating/Storage Temperature	Surface mount with one #10 (M5 x 0.8) screw
Humidity	H 50.8 mm (2"); W 50.8 mm (2");
Weight	D 38.4 mm (1.51")
	0.25 in. (6.35 mm) male quick connect terminals
	-40° to 60°C / -40° to 85°C
	95% relative, non-condensing
	≅ 3.9 oz (111 g)

**Must be bolted to a metal surface using the included heat sink compound. The maximum mounting surface temperature is 90°C. Inrush: Non-repetitive for 16ms.