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THD1B410.5S

Description

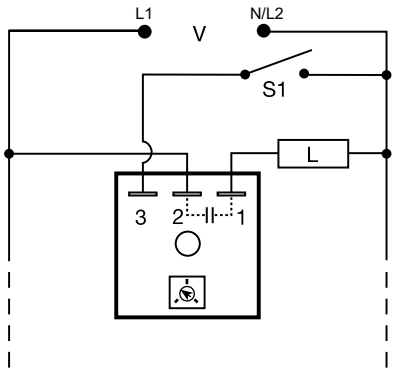
The THD1B410.5S combines accurate timing circuitry with high power solid-state switching. It can switch motors, lamps, and heaters directly without a contactor. You can reduce labor, component cost, and increase reliability with these small, easy-to-use, timers.

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.

Wiring Diagram



V = Voltage
S1 = Optional Low Current Initiate Switch
L = Load

R_T is used when external adjustment is ordered.

Features & Benefits

FEATURES	BENEFITS
Microcontroller based	Repeat Accuracy + / - 0.5%, Factory calibration + / - 1%
Compact, low cost design	Allows flexiblility 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 directly 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 for 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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THD1 SERIES

Specifications

Time Delay	
Range	0.1s - 1000m in 6 adjustable ranges or fixed
Repeat Accuracy	±0.5% or 20ms, whichever is greater
Tolerance (Factory Calibration)	≤ ±1%
Recycle Time	≤ 150ms
Time Delay vs Temp. & Voltage	≤ ±2%
Input	
Voltage	24, 120, or 230VAC
Tolerance	±20%
Line Frequency	50/60 Hz
Power Consumption	≤ 2VA
Output	
Type	Solid state
Form	NO, open during timing

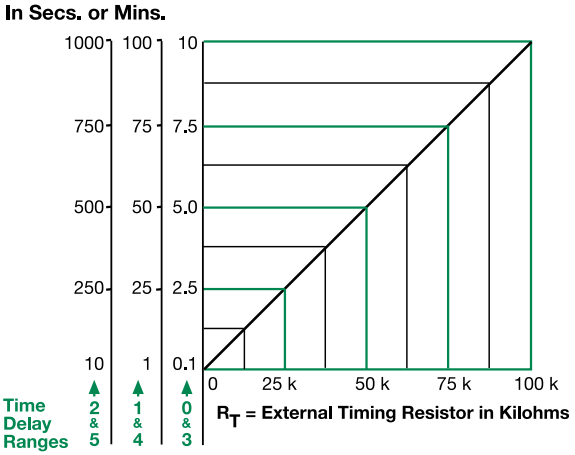
Maximum Load Current

Output	Steady State	Inrush**
A	6A	60A
B	10A	100A
C	20A	200A

Minimum Load Current	100mA
Voltage Drop	≅ 2.5V @ rated current
OFF State Leakage Current	≅ 5mA @ 230VAC
Protection	
Circuitry	Encapsulated
Dielectric Breakdown	≥ 2000V RMS terminals to mounting surface
Insulation Resistance	≥ 100 MΩ
Mechanical	
Mounting **	Surface mount with one #10 (M5 x 0.8) screw
Dimensions	**H** 50.8 mm (2.0"); **W** 50.8 mm (2.0"); **D** 38.4 mm (1.51")
Termination	0.25 in. (6.35 mm) male quick connect terminals
Environmental	
Operating/Storage Temperature	-40° to 60°C / -40° to 85°C
Humidity	95% relative, non-condensing
Weight	≅ 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.

External Resistance vs. Time Delay

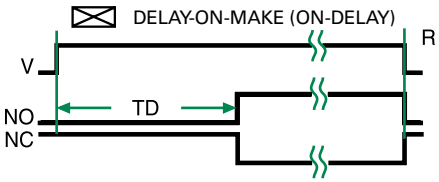


This chart applies to externally adjustable part numbers.
The time delay is adjustable over the time delay range selected by varying the resistance across the R_T terminals; as the resistance increases the tie delay increases.

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 ohn R_T. For 1 to 100 S use a 100 K ohm R_T.

Function Diagram



V = Voltage
NO = Normally Open Contact
NC = Normally Closed Contact
TD = Time Delay
R = Reset
= Undefined Time