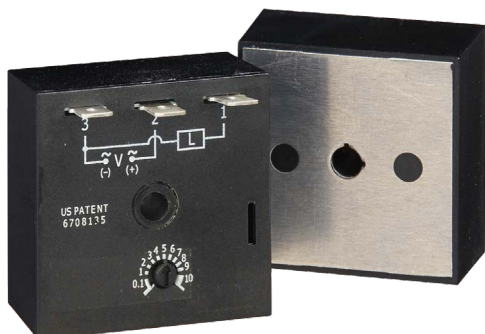
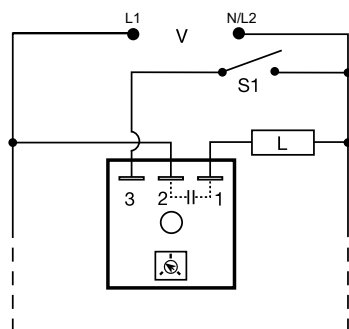


## THD2 SERIES



### Wiring Diagram



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

$R_T$  is used when external adjustment is ordered.

### Ordering Information

MODEL	OUTPUT RATING	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY
THD2C420	20A	120VAC	External	0.1 - 10s
THD2C423	20A	120VAC	External	0.1 - 10m
THD2C433	20A	120VAC	Onboard	0.1 - 10m
THD2C620	20A	230VAC	External	0.1 - 10s
THD2C633	20A	230VAC	Onboard	0.1 - 10m

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

### Description

The THD2 Series 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, Digi-Power timers.

### Operation (Interval)

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

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

### Features & Benefits

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

### 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.

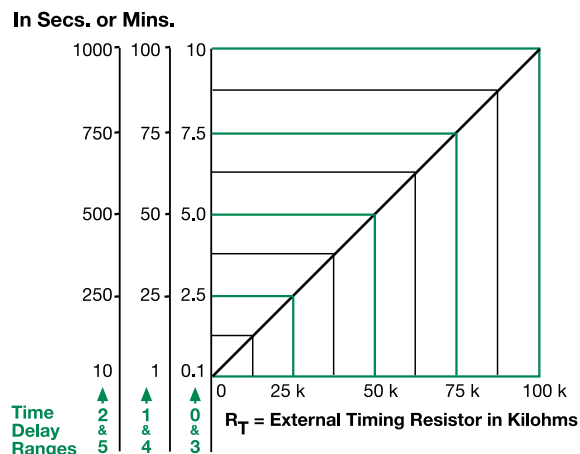


#### P1015-18 Quick Connect to Screw Adapter

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

## THD2 SERIES

### External Resistance vs. Time Delay



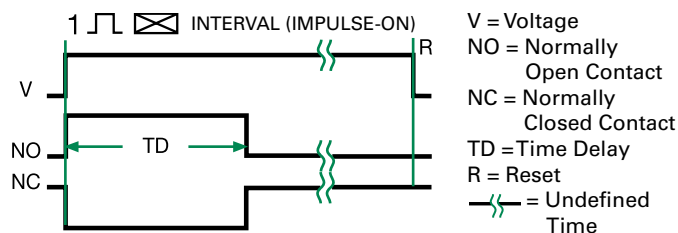
**This chart applies to externally adjustable part numbers.**

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 - 1000m in 6 adjustable ranges or fixed

##### Repeat Accuracy

±0.5% or 20ms, whichever is greater

##### Tolerance

##### (Factory Calibration)

≤ ±1%

##### Reset Time

≤ 150ms

##### Time Delay vs Temp.

##### & Voltage

≤ ±2%

#### Input

##### Voltage

24, 120, or 230VAC

##### Tolerance

±20%

##### AC Line Frequency

50/60 Hz

#### Output

##### Type

Solid state

##### Form

NO, closed 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 at 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"); W 50.8 mm (2");

D 38.4 mm (1.51")

0.25 in. (6.35 mm) male quick connect terminals

#### Termination

#### 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.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Littelfuse:](#)

[THD7421A](#) [THD7621C](#) [THD2C433](#) [THD2C633](#) [THD2C620](#) [THD2C423](#) [THD2C420](#)