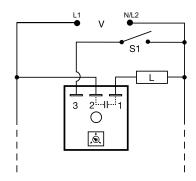
# THD2 SERIES





## **Wiring Diagram**



V = Voltage

L = Load

S1 = Optional Low Current Initiate Switch

R<sub>T</sub> 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		
Microcontroller based	Repeat Accuracy + / - 0.5%, Factory calibration + / - 1%		
High load currents up to 20A, 200A inrush	Allows direct control 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		
Compact, low cost design	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

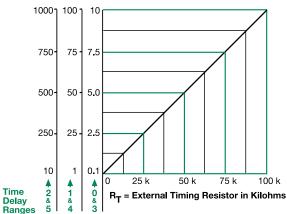
all modules with 0.25 in. (6.35 mm) male quick connect terminals.



# **THD2 SERIES**

# **External Resistance vs. Time Delay**





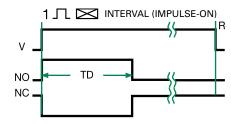
#### This chart applies to externally adjustable part numbers.

The time delay is adjustable over the time delay range selected by varying the resistance across the R<sub>T</sub> terminals; as the resistance increases the tie

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

### **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

NO, closed during timing

**Form** Inrush\*\* **Maximum Load Current** Output **Steady State** Α 6A 60A В 10A 100A 20A C 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

 $\geq 100 \ M\Omega$ **Insulation Resistance** 

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")

**Termination** 0.25 in. (6.35 mm) male quick connect terminals

**Environmental** 

Operating/Storage

**Temperature**  $-40^{\circ}$  to  $60^{\circ}$ C /  $-40^{\circ}$  to  $85^{\circ}$ C Humidity 95% relative, non-condensing

Weight  $\approx 3.9 \text{ oz} (111 \text{ g})$ 

<sup>\*\*</sup>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.

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