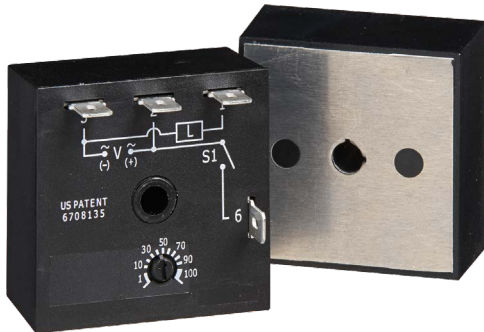
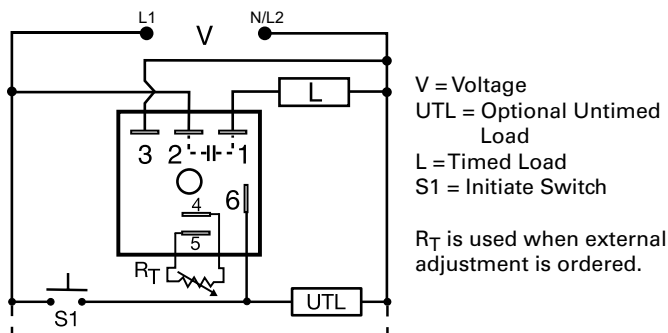


# THDS SERIES



## Wiring Diagram



## Description

The THDS 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, timers.

### Operation (Single Shot)

Input voltage must be applied before and during timing. Upon momentary or maintained closure of the initiate switch, the output energizes for a measured interval of time. At the end of the delay, the output de-energizes. Opening or reclosing the initiate switch during timing has no effect on the time delay. The output energizes if the initiate switch is closed when input voltage is applied.

**Reset:** Reset occurs when the time delay is complete and the initiate switch is opened. Loss of input voltage resets the time delay and 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 operation 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 component 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.



**P1015-64 (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.

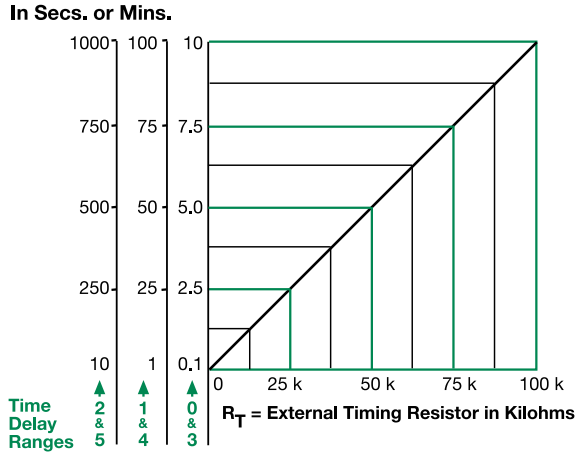
## Ordering Information

MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY	OUTPUT RATING
THDS410.25SA	120VAC	Fixed	0.25s	6A
THDS431C	120VAC	Onboard	1 - 100s	20A
THDS610.25SA	230VAC	Fixed	0.25s	6A

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

# THDS SERIES

## External Resistance vs. Time Delay

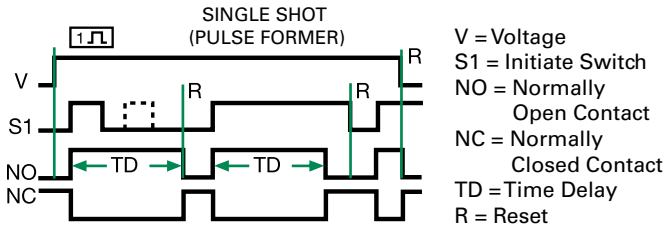


**This chart applies to externally adjustable part numbers.**  
The time delay is adjustable over the time delay range selected by varying the resistance across the R<sub>T</sub> terminals; as the resistance increases the time delay increases.

When selecting an external R<sub>T</sub>, add the tolerances of the timer and the R<sub>T</sub> 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<sub>T</sub>. For 1 to 100 S use a 100 K ohm R<sub>T</sub>.

## Function Diagram



## Specifications

<b>Time Delay Range</b>	0.1s - 1000m in 6 adjustable ranges or fixed ±0.5% or 20ms, whichever is greater		
<b>Repeat Accuracy Tolerance (Factory Calibration)</b>	≤ ±1%		
<b>Reset Time</b>	≤ 150ms		
<b>Initiate Time</b>	≤ 20ms		
<b>Time Delay vs Temp. &amp; Voltage</b>	≤ ±2%		
<b>Input Voltage</b>	24, 120, or 230VAC		
<b>Tolerance</b>	±20%		
<b>AC Line Frequency</b>	50/60 Hz		
<b>Power Consumption</b>	≤ 2VA		
<b>Output Type</b>	Solid state		
<b>Form</b>	NO, closed during timing		
<b>Maximum Load Current</b>	<b>Output</b>	<b>Steady State</b>	<b>Inrush**</b>
	A	6A	60A
	B	10A	100A
	C	20A	200A
<b>Voltage Drop</b>	≈ 2.5V @ rated current		
<b>Off State Leakage Current</b>	≈ 5mA @ 230VAC		
<b>Minimum Load Current</b>	100mA		
<b>Protection</b>	Encapsulated		
<b>Circuitry</b>	≥ 2000V RMS terminals to mounting surface		
<b>Dielectric Breakdown</b>	≥ 100 MΩ		
<b>Insulation Resistance</b>			
<b>Mechanical Mounting**</b>	Surface mount with one #10 (M5 x 0.8) screw		
<b>Dimensions</b>	<b>H</b> 50.8 mm (2.0"); <b>W</b> 50.8 mm (2.0"); <b>D</b> 38.4 mm (1.51")		
<b>Termination</b>	0.25 in. (6.35 mm) male quick connect terminals		
<b>Environmental Operating/Storage Temperature</b>	-40° to 60°C / -40° to 85°C		
<b>Humidity</b>	95% relative, non-condensing		
<b>Weight</b>	≈ 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.