

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, Digi-Power 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.

For more information see:

Appendix A, pages 156-164 for function descriptions and diagrams.

Appendix B, page 165, Figure 4 for dimensional drawing.

### Features:

- High load currents up to 20A, 200A inrush
- Fixed or adjustable delays from 0.1s - 1000m
- ±0.5% repeat accuracy
- ±1% factory calibration
- 24, 120, or 230VAC
- Metallized mounting surface for heat transfer

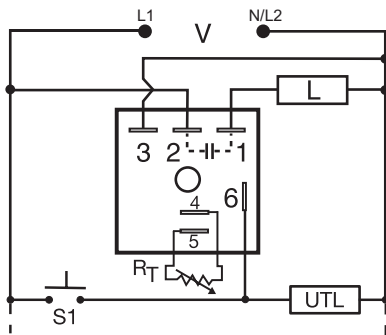
- Totally solid state and encapsulated

Approvals:

### Auxiliary Products:

- **External adjust potentiometer:**  
P/N: P1004-95  
P/N: P1004-95-X
- **Female quick connect:**  
P/N: P1015-13 (AWG 10/12)  
P/N: P1015-64 (AWG 14/16)
- **Quick connect to screw adaptor:**  
P/N: P1015-18
- **Versa-knob:** P/N: P0700-7

### Connection:



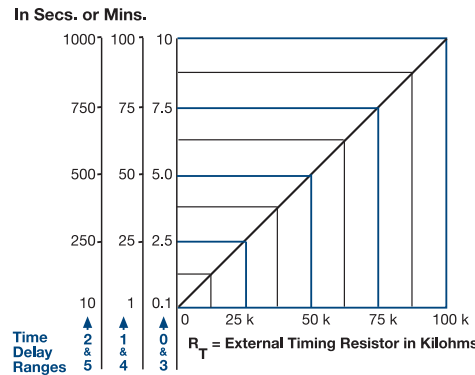
UTL = Optional Untimed Load

L = Timed Load

S1 = Initiate Switch

R<sub>T</sub> is used when external adjustment is ordered.

### 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>.

### Available Models:

THDS230C	THDS420B
THDS231C	THDS430C
THDS232C	THDS432C
THDS233C	THDS433C
THDS234C	THDS434C
THDS235C	THDS435C
THDS410.25SA	THDS610.25SA
THDS411.5SA	THDS611.5SA
THDS414MC	

If desired part number is not listed, please call us to see if it is technically possible to build.

### Order Table:

<b>THDS</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
	<b>Input Voltage</b>	<b>Adjustment</b>	<b>Time Delay*</b>	<b>Output Rating</b>
	— 2 - 24VAC	— 1 - Fixed	— 0 - 0.1 - 10s	— A - 6A
	— 4 - 120VAC	— 2 - External adjust	— 1 - 1 - 100s	— B - 10A
	— 6 - 230VAC	— 3 - Onboard adjust	— 2 - 10 - 1000s	— C - 20A
			— 3 - 0.1 - 10m	
			— 4 - 1 - 100m	
			— 5 - 10 - 1000m	

\*If fixed delay is selected, insert delay (0.1 - 1000) followed by (S) sec. or (M) min.

### Specifications

<b>Time Delay</b>	
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
Initiate Time	≤ 20ms
Time Delay vs Temp. & Voltage	≤ ±2%
<b>Input</b>	
Voltage	24, 120, or 230VAC
Tolerance	±20%
AC Line Frequency	50/60 Hz
Power Consumption	≤ 2VA
<b>Output</b>	
Type	Solid state
Form	NO, closed during timing
Maximum Load Current	Output Steady State
	A 6A
	B 10A
	C 20A
	Inrush**
	60A
	100A
	200A

Voltage Drop	≈ 2.5V @ rated current
Off State Leakage Current	≈ 5mA @ 230VAC
Minimum Load Current	100mA
<b>Protection</b>	
Circuitry	Encapsulated
Dielectric Breakdown	≥ 2000V RMS terminals to mounting surface
Insulation Resistance	≥ 100 MΩ
<b>Mechanical</b>	
Mounting**	Surface mount with one #10 (M5 x 0.8) screw
Dimensions	2 x 2 x 1.51 in. (50.8 x 50.8 x 38.4 mm)
Termination	0.25 in. (6.35 mm) male quick connect terminals
<b>Environmental</b>	
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.