TH1 SERIES





Description

The TH1 Series is a solid-state relay and timer combined into one compact, easy-to-use control. This highly reliable device eliminates the need for a separate solid-state relay. When mounted to a metal surface, it can switch load currents up to 20A steady state, and 200A inrush.

Operation (Delay-on-Make)

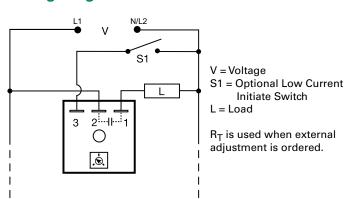
Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output energizes and remains energized until input voltage is removed.

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

Features & Benefits

FEATURES	BENEFITS		
Microcontroller based	Repeat Accuracy + / - 2%, Factory calibration + / - 5%		
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		

Wiring Diagram



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.

Ordering Information

MODEL	OUTPUT RATING	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY
TH1B633	10A	230VAC	Onboard	2 - 180s
TH1C415	20A	120VAC	Fixed	5s
TH1C621	20A	230VAC	External	0.1 - 3s

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



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Specifications

Time Delay

Range 0.1 - 600s in 4 adjustable ranges or fixed **Example 2 Example 3 Example 3 Example 4 Example 3 Example 4 Example 4 Example 5 Example 6 Example 6 Example 7 E**

Tolerance (Factory Calibration) $\leq \pm 5\%$

Time Delay vs Temp.

& Voltage $\leq \pm 10\%$ Recycle Time ≤ 150 ms

Input

Voltage 24, 120, or 230VAC

Output

Type Solid state

Form NO, open during timing

 Maximum Load Currents
 Output
 Steady State
 Inrush**

 A
 6A
 60A

 B
 10A
 100A

 C
 20A
 200A

100mA

Minimum Load Current

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 $\geq 100 \text{ M}\Omega$

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 -20° to 60°C / -40° to 85°C Humidity 95% relative, non-condensing

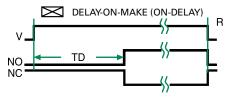
Weight $\approx 3.9 \text{ oz } (111 \text{ g})$

Selection Guide

R _T Selection Chart					
Des	R-				
1	2	3	4	Kohms	
0.1	0.5	2	5	0	
0.3	6	20	60	10	
0.6	12	38	120	20	
0.9	18	55	180	30	
1.2	24	73	240	40	
1.5	30	90	300	50	
1.8	36	108	360	60	
2.1	42	126	420	70	
2.4	48	144	480	80	
2.7	54	162	540	90	
3.0	60	180	600	100	

^{*} When selecting an external R_T add at least 15% for tolerance of unit and the R_T.

Function Diagram



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

^{**}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:

TH1C621 TH1B633 TH1C415