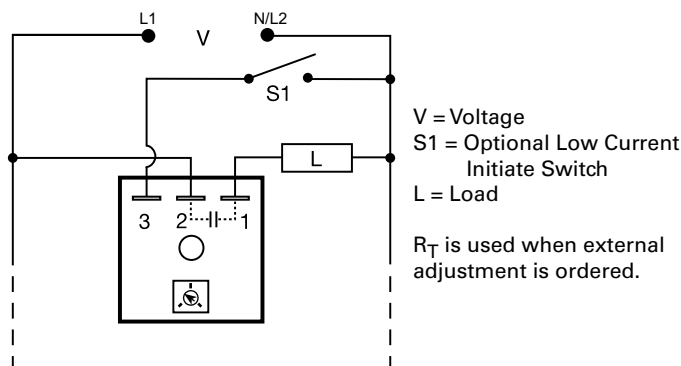


TH1 SERIES



Wiring Diagram



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

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 flexibility 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

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.

TH1 SERIES

Specifications

Time Delay

Range 0.1 - 600s in 4 adjustable ranges or fixed
Repeat Accuracy $\pm 2\%$ or 20ms, whichever is greater

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

Time Delay vs Temp. & Voltage $\leq \pm 10\%$

Recycle Time $\leq 150\text{ms}$

Input

Voltage 24, 120, or 230VAC

Tolerance $\pm 15\%$

AC Line Frequency 50/60 Hz

Power Consumption $\leq 2\text{VA}$

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

Minimum Load Current 100mA

Voltage Drop $\approx 2.5\text{V}$ at rated current

OFF State Leakage Current $\approx 5\text{mA}$ @ 230VAC

Protection

Circuitry Encapsulated

Dielectric Breakdown $\geq 2000\text{V RMS}$ 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

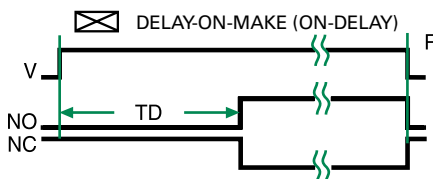
Weight $\approx 3.9\text{ oz}$ (111 g)

Selection Guide

R _T Selection Chart				
Desired Time Delay*				R _T
Seconds				
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
— = Undefined Time

**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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[TH1C621](#) [TH1B633](#) [TH1C415](#)