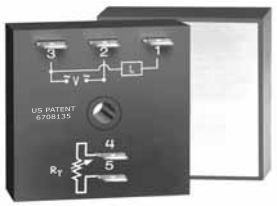
Delay On Make (ON-Delay)
TH1 Series
Power Timing Module

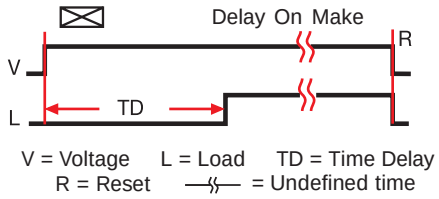


- High Current Load Capacity up to 20 A with 200 A Inrush
- Solid State Switching -- No Contact Wear or Arcing
- Encapsulated
- Fixed or Adjustable Time Delays From 0.1 ... 600 s in 4 Ranges
- +/- 2% Repeat Accuracy
- +/- 5% Factory Calibration
- Metallized Mounting Surface for Efficient Heat Transfer

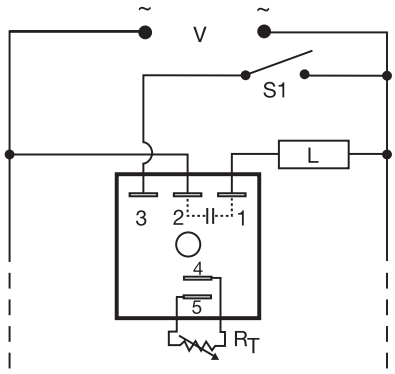
Approvals:

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 20 A steady state, and 200 A inrush.

Operation
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.

Function


V = Voltage L = Load TD = Time Delay
R = Reset = Undefined time

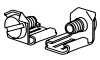
Connection


R_T is used when external adjustment is ordered.
Dashed lines are internal connections.
S1 is an optional low current initiate switch.

Accessories

External adjust potentiometer P/Ns:
P1004-95 (fig A)
P1004-95-X (fig B)


Female quick connect P/Ns:
P1015-64 (AWG 14/16)
P1015-13 (AWG 10/12)


Quick connect to screw adaptor P/N: **P1015-18**


Versa-knob P/N: **P0700-7**

See accessory pages for specifications.

Ordering Table

TH1 Series	X Output Rating	X Input	X Adjustment	X Time Delay *
	A - 6 A	**2** - 24 V AC	**1** - Fixed	**1** - 0.1 ... 3 s
	B - 10 A	**4** - 120 V AC	**2** - External Adjust	**2** - 0.5 ... 60 s
	C - 20 A	**6** - 230 V AC	**3** - Onboard Adjust	**3** - 2 ... 180 s
				4 - 5 ... 600 s

Example P/N: **TH1B223** Fixed – **TH1C410.1**

*If fixed delay is selected, insert delay [**0.1** ... **600**] in seconds.

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Technical Data

Time Delay	
Range	0.1 ... 600 s in 4 adjustable ranges or fixed
Repeat Accuracy	+/-2% or 20 ms, whichever is greater
Tolerance (Factory Calibration)	≤ +/- 5%
Time Delay vs. Temperature and Voltage	≤ +/-10%
Recycle Time	≤ 150 ms
Input	
Voltage	24, 120, or 230 V AC
Tolerance	+/-15%
Line Frequency	50 ... 60 Hz
Power Consumption	≤ 2 VA
Output	
Type	Solid state
Form	Normally Open, open during timing
Maximum Load Currents	Output / Steady State / Inrush** A / 6 A / 60 A B / 10 A / 100 A C / 20 A / 200 A
Minimum Load Current	100 mA
Voltage Drop	≅ 2.5 V at rated current
OFF State Leakage Current	≅ 5 mA at 230 V AC
Protection	
Circuitry	Encapsulated
Dielectric Breakdown	≥ 2000 V RMS terminals to mounting surface
Insulation Resistance	≥ 100 MΩ
Mechanical	
Mounting **	Surface mount with one #10 (M5 x 0.8) screw
Package	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
Environmental	
Operating Temperature	-20°C ... +60°C
Storage Temperature	-40°C ... +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 16 ms.

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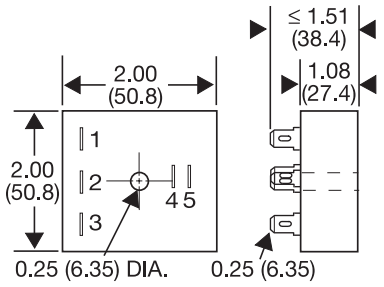
R_T Selection Chart				
Desired Time Delay* Seconds				R_T
1	2	3	4	Kohms
0.1	0.5	2	5	0
0.3	6	20	60	10
0.6	12	38	120	20
0.9	18	55	180	30
1.2	24	73	240	40
1.5	30	90	300	50
1.8	36	108	360	60
2.1	42	126	420	70
2.4	48	144	480	80
2.7	54	162	540	90
3.0	60	180	600	100

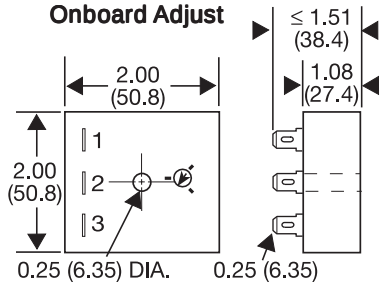
* When selecting an external R_T add at least 15% for tolerance of unit and the R_T.

Mechanical View

Fixed & External Adjust



Onboard Adjust



Inches (Millimeters)

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