Delay On Make (Operate)
THD1 Digi-Power
Power Timing Module

- High Load C... Inrush
- Fixed or ... 1 s ... 1000 m
- +/-5%
- +/-2% ... and Temperature
- Metallized ... face for Efficient Heat Transfer
- Encapsulate... State Circuit

Description

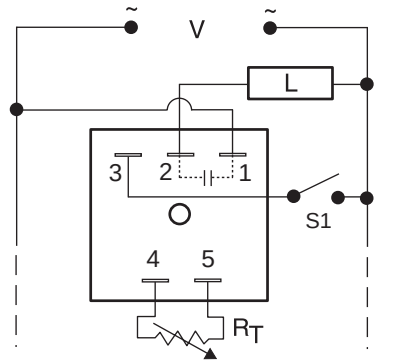
The THD1 Series combines stable C/MOS digital timing circuitry with high power solid state switching. It can switch motors, lamps, and heaters directly without a contactor. You can reduce labor, component cost, and increase reliability with the small easy-to-use Digi-Power timers.

Operation

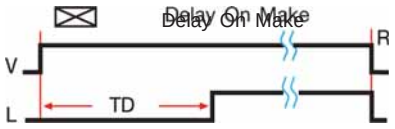
Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output is energized and remains energized until input voltage is removed.

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

■ Approvals:



R_T is used when external adjustment is ordered.



V = Voltage L = Load S1 = Initiate Switch
TD = Time Delay R = Reset
—⸗— = Undefined time

Ordering Table

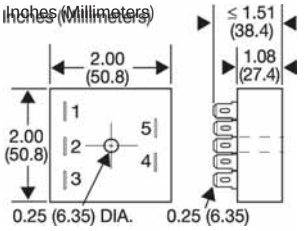
THD1 Series	X Output Rating	X Input	X Adjustment	X Time Delay *
	A - 6 A	2 - 24 V AC	1 - Fixed	0 - 0.1 ... 10 s
	B - 10 A	4 - 120 V AC	2 - External Adjust	1 - 1.0 ... 100 s
	C - 20 A	6 - 230 V AC		2 - 10 ... 1000 s
				3 - 0.1 ... 10 m
				4 - 1 ... 100 m
				5 - 10 ... 1000 m

*If Fixed Delay is selected, insert delay [0.1...1000] followed by (S) secs. or (M) mins.

Example P/N: THD1B223
Fixed – THD1C410.1S

R_T Selection Chart						
Desired Time Delay*						R_T
Seconds			Minutes			
0	1	2	3	4	5	Megohm
0.1	1	10	0.1	1	10	0.0
1	10	100	1	10	100	0.5
2	20	200	2	20	200	1.0
3	30	300	3	30	300	1.5
4	40	400	4	40	400	2.0
5	50	500	5	50	500	2.5
6	60	600	6	60	600	3.0
7	70	700	7	70	700	3.5
8	80	800	8	80	800	4.0
9	90	900	9	90	900	4.5
10	100	1000	10	100	1000	5.0

* When selecting an external R_T add at least 11% for tolerance of unit and the R_T.



Technical Data

Time Delay	
Type	Digital integrated circuitry
Range	0.1 s ... 1000 m in 6 adjustable ranges or fixed
Linearity	≤ +/-2% for 10% to 100% of range
Repeat Accuracy	+/-0.5%
Tolerance (Factory Calibration)	+/-1%
Recycle Time	150 ms
Time Delay vs. Temperature & Voltage	≤ +/-2%
Input	
Voltage	24, 120, or 230 V AC
Tolerance	+/-20%
Line Frequency	50 ... 60 Hz
Output	
Type	Solid state
Form	Normally Open, open during timing
Rating	Output A: Steady state 6 A, Inrush** 60 A Output B: Steady state 10 A, Inrush** 100 A Output C: Steady state 20 A, Inrush** 200 A
Minimum Load Current	100 mA
Voltage Drop	≅ 2.5 V at rated current
Leakage	8.6 mA at 230 V AC 4.5 mA at 120 V AC 0.9 mA at 24 V AC
Protection	
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
Termination	0.25 in. (6.35 mm) male quick connect terminals
Environmental	
Operating/StorageTemperature	-40°C ... +60°C / -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.

Time Delay	VTP P/N
0 – 0.1 ... 10 s	VTP5C
1 – 1 ... 100 s	VTP5G
2 – 10 ... 1000 s	VTP5K
3 – 0.1 ... 10 m	VTP5N
4 – 1 ... 100 m	VTP5P
5 – 10 ... 1000 m	VTP5R

Accessories

Female quick connect
P/N: P1015-64 (AWG 14/16)

External adjust potentiometer
P/Ns:
P1004-13 (fig A)
P1004-13-X (fig B)

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

Plug-on adjustment module
P/N: VTP(X)(X)

Versa-knob
P/N: P0700-7

See accessory pages at the end of this section.