

Delay On Make (ON-Delay) THDM Digi-Power Power Timing Module



- High Load Currents up to 20 A, 200 A Inrush
- Simple-to-use Two Terminal Series Connection
- +/- 0.5% Repeat Accuracy
- Fixed or Adjustable Delays From 1 s ... 1000 m
- +/- 10% Factory Calibration
- 24, 120, or 230 V AC
- Metallized Mounting Surface for Heat Transfer
- Solid State & Encapsulated

Approvals:

Description

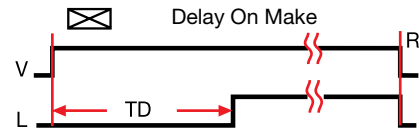
The THDM Series is a high power solid state delay on make timer that is connected in series with the load. The THDM eliminates the need for a timer and a separate solid state relay. A cost effective approach for controlling larger loads such as motor, electric heating elements, and lamps. When mounted on a metal surface, it can switch loads up to 20 Amps steady, 200 Amps 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 is energized and remains energized until input voltage is removed.

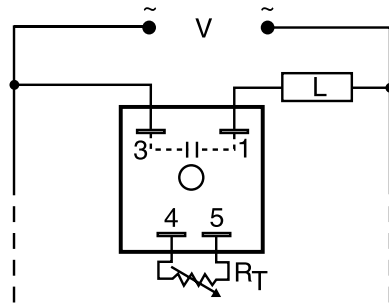
Reset: Removing input voltage resets the time delay and output.

Function



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

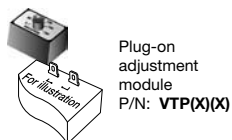
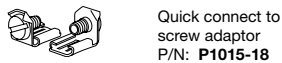
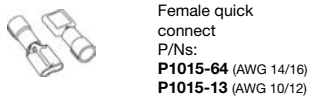
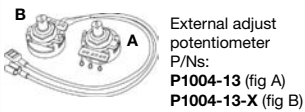
Connection



Load may be connected to terminal 3 or 1.
 R_T is used when external adjustment is ordered.
Dashed lines are internal connections.

Time Delay	VTP P/N
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



See accessory pages for specifications.

Ordering Table

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

Example P/N: **THDM621B** Fixed - **THDM210.5MC**

*If Fixed Delay is selected, insert delay [1.0...1000] followed by (S) sec. or [0.1 ... 1000] (M) min.

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Technical Data

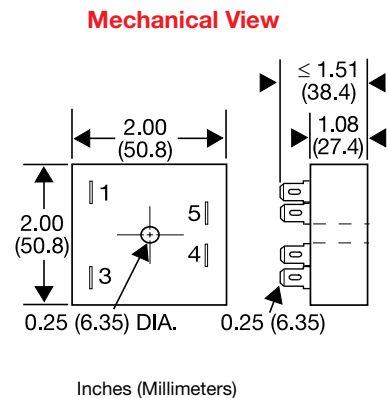
Time Delay Type Range Repeat Accuracy Tolerance (Factory Calibration) Recycle Time Time Delay vs. Temperature & Voltage	Digital intergrated circuitry 1 s ... 1000 m in 5 adjustable ranges or fixed +/-0.5% or 20 ms, whichever is greater ≤ +/- 10% During timing--≤150 ms; After timing--≤ 350 ms ≤ +/-2%												
Input Voltage Tolerance Line Frequency	24, 120, or 230 V AC +/-20% 50 ... 60 Hz												
Output Type Form Maximum Load Currents	Solid state Normally Open, open during timing <table border="1"> <tr> <td>Output</td> <td>Steady State</td> <td>Inrush**</td> </tr> <tr> <td>A</td> <td>6 A</td> <td>60 A</td> </tr> <tr> <td>B</td> <td>10 A</td> <td>100 A</td> </tr> <tr> <td>C</td> <td>20 A</td> <td>200 A</td> </tr> </table>	Output	Steady State	Inrush**	A	6 A	60 A	B	10 A	100 A	C	20 A	200 A
Output	Steady State	Inrush**											
A	6 A	60 A											
B	10 A	100 A											
C	20 A	200 A											
Minimum Load Current Effective Voltage Drop (V Line - V Load)	100 mA <table border="1"> <tr> <td>Input</td> <td>Effective Drop</td> </tr> <tr> <td>24 V AC</td> <td>≤ 3 V</td> </tr> <tr> <td>120 V AC</td> <td>≤ 3 V</td> </tr> <tr> <td>230 V AC</td> <td>≤ 5 V</td> </tr> </table>	Input	Effective Drop	24 V AC	≤ 3 V	120 V AC	≤ 3 V	230 V AC	≤ 5 V				
Input	Effective Drop												
24 V AC	≤ 3 V												
120 V AC	≤ 3 V												
230 V AC	≤ 5 V												
Protection Circuitry Dielectric Breakdown Insulation Resistance	Encapsulated ≥ 2000 V RMS terminals to mounting surface ≥ 100 MΩ												
Mechanical Mounting ** Termination	Surface mount with one #10 (M5 x 0.8) screw 0.25 in. (6.35 mm) male quick connect terminals												
Environmental Operating/Storage Temperature Humidity Weight	-40°C ... +60°C / -40°C ... +85°C 95% relative, non-condensing ≅ 3.9 oz (111 g)												

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**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.

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

* When selecting an external R_T add at least 20% for tolerance of unit and the R_T.



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