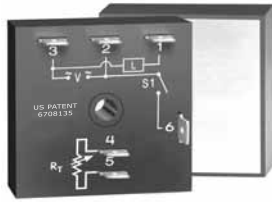


# Delay On Break (Release)

## THDB Digi-Power Power Timing Module



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- High Load Currents up to 20 A, 200 A Inrush
- Fixed or Adjustable Delays From 0.1 s ... 1000 m
- +/-0.5% Repeat Accuracy
- +/-1% Factory Calibration
- 24, 120, or 230 V AC
- Metallized Mounting Surface for Efficient Heat Transfer
- Totally Solid State and Encapsulated

Approvals:

### Description

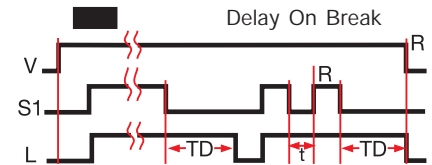
The THD Series combines accurate timing circuitry with high power solid state switching. It can switch motors, lamps, and heaters directly without a contactor. You can reduce labor, component cost, and increase reliability with these small, easy-to-use, Digi-Power timers.

### Operation

Input voltage must be applied before and during timing. Upon closure of the initiate switch, the output energizes. The time delay begins when the initiate switch is opened. The output remains energized during timing. At the end of the time delay, the output de-energizes. The output energizes if the initiate switch is closed when input voltage is applied.

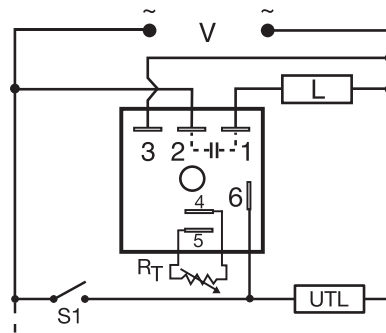
**Reset:** Reclosing the initiate switch during timing resets the time delay. Loss of input voltage resets the time delay and output.

### Function



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

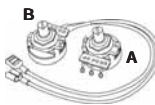
### Connection



$R_T$  is used when external adjustment is ordered.  
 Dashed lines are internal connections.

UTL = Optional Untimed Load L = Timed Load S1 = Initiate Switch

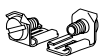
### Accessories



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

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

Example P/N: **THDB420C** Fixed - **THDB410.1SA**

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

# Delay On Break (Release)

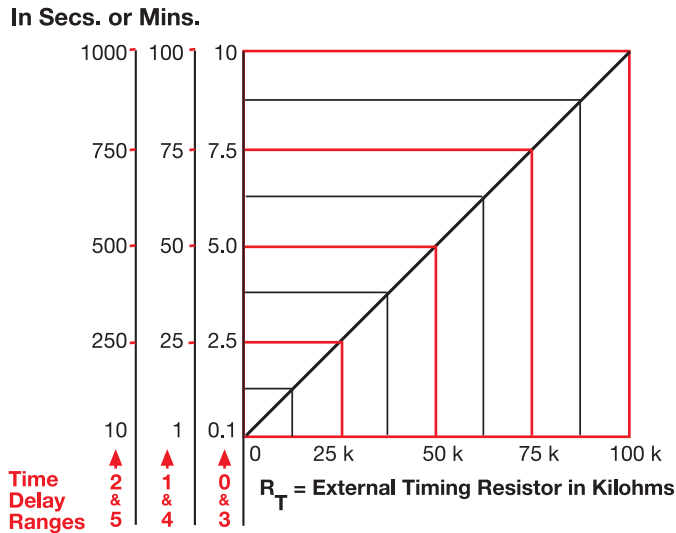
## THDB Digi-Power Power Timing Module

### Technical Data

<b>Time Delay</b>													
Range	0.1 s ... 1000 m in 6 adjustable ranges or fixed												
Repeat Accuracy	+/-0.5% or 20 ms, whichever is greater												
Tolerance (Factory Calibration)	≤ +/-1%												
Reset Time	≤ 150 ms												
Initiate Time	≤ 20 ms												
Time Delay vs. Temperature & Voltage	≤ +/-2%												
<b>Input</b>													
Voltage	24, 120, or 230 V AC												
Tolerance	+/-20%												
Line Frequency	50 ... 60 Hz												
Power Consumption	≤ 2 VA												
<b>Output</b>													
Type	Solid state												
Form	Normally Open, closed before & during timing												
Maximum Load Current	<table border="1"> <thead> <tr> <th>Output</th> <th>Steady State</th> <th>Inrush**</th> </tr> </thead> <tbody> <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> </tbody> </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											
**Must be bolted to a metal surface using the included heat sink compound. The maximum surface temperature is 90°C. Inrush: Non-repetitive for 16 ms.													
Voltage Drop	≅ 2.5 V at rated current												
Off State Leakage Current	≅ 5 mA at 230 V AC												
Minimum Load Current	100 mA												
<b>Protection</b>													
Circuitry	Encapsulated												
Dielectric Breakdown	≥ 2000 V RMS terminals to mounting surface												
Insulation Resistance	≥ 100 MΩ												
<b>Mechanical</b>													
Mounting **	Surface mount with one #10 (M5 x 0.8) screw												
Termination	0.25 in. (6.35 mm) male quick connect terminals												
<b>Environmental</b>													
Operating/Storage Temperature	-40°C ... +60°C / -40°C ... +85°C												
Humidity	95% relative, non-condensing												
Weight	≅ 3.9 oz (111 g)												

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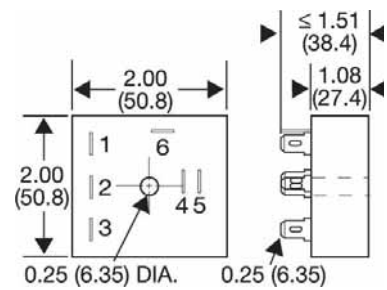
### External Resistance vs Time Delay



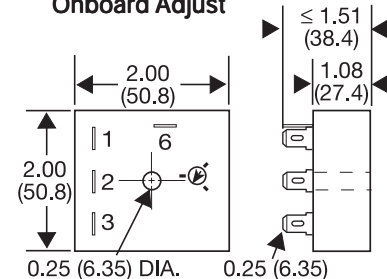
**This chart applies to externally adjustable part numbers.**  
 The time delay is adjustable over the time delay range selected by varying the resistance across the  $R_T$  terminals; as the resistance increases the time delay increases.  
 When selecting an external  $R_T$ , add the tolerances of the timer and the  $R_T$  for the full time range adjustment.  
**Examples:** 1 to 50 S adjustable time delay, select time delay range 1 and a 50 K ohm  $R_T$ . For 1 to 100 S use a 100 K ohm  $R_T$ .

### Mechanical View

#### Fixed & External Adjust



#### Onboard Adjust



Inches (Millimeters)