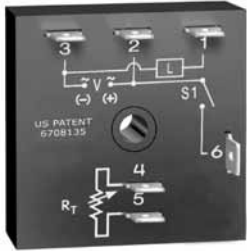


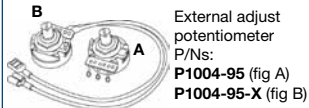
Delay On Break (Release) TSB Series Timing Module



- Totally Solid State Encapsulated
- Fixed or Adjustable Delays From 0.05 ... 600 s in 4 Ranges
- +/- 2% Repeat Accuracy
- +/-5% Factory Calibration

Approvals:

Accessories



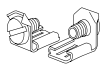
External adjust potentiometer
P/Ns:
P1004-95 (fig A)
P1004-95-X (fig B)



Mounting bracket
P/N: P1023-6



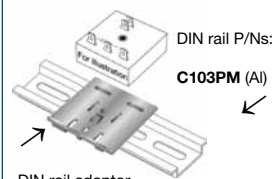
Female quick connect
P/N:
P1015-64 (AWG 14/16)



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



Versa-knob
P/N: P0700-7



DIN rail P/Ns:
C103PM (Al)

DIN rail adaptor
P/N: P1023-20

See accessory pages for specifications.

Description

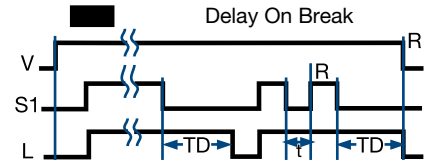
The TSB Series is a totally solid state delay on break timing module. The TSB is available with a fixed, external, or onboard adjustable time delay. Time Delays from .05 to 600 seconds, in 4 standard ranges, cover over 90% of all OEM and commercial appliance timing applications. The repeat accuracy is +/-2%. Operating voltages of 24, 120, or 230 V AC are available. The TSB's 1A steady state, 10A rated solid state output is perfect for direct control of solenoids, contactors, relays, lamps, buzzers, and small heaters. The TSB can be surface mounted with a single screw, or snapped on 35 mm DIN rail using the P1023-20 adaptor.

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 opens. The output remains energized during timing. At the end of the time delay, the output de-energizes. The output will energize if the initiate switch is closed when input voltage is applied.

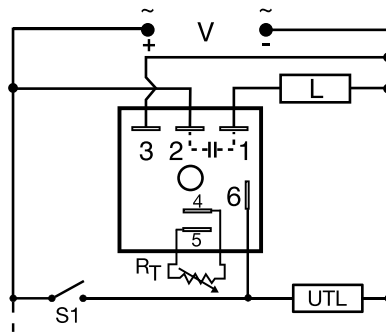
Reset: Reclosing the initiate switch during timing resets the time delay. Loss of input voltage resets the output and the time delay.

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.

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

Available Models-

TSB2130	•TSB2190	TSB222
TSB232	TSB4110	TSB413
TSB41300	TSB414	TSB4170
TSB418	TSB4190	TSB421
•TSB422	TSB423	TSB424
TSB432	TSB434	TSB623
TSB632	TSB634	

Don't see what you need? Call us for a minimum quantity and price quote!

Ordering Table

TSB Series	X Input	X Adjustment	X Time Delay*
	-2 - 24 V AC	-1 - Fixed	-1 - 0.05 ... 3 s
	-4 - 120 V AC	-2 - External Adjust	-2 - 0.5 ... 60 s
	-6 - 230 V AC	-3 - Onboard Adjust	-3 - 2 ... 180 s
			-4 - 5 ... 600 s

Example P/N: TSB422 Fixed – TSB410.5

* If Fixed Delay is selected, insert delay [0.05 ... 600] in seconds.

Delay On Break (Release)

TSB Series

Timing Module

Dedicated
timers

Technical Data

Time Delay Range Repeat Accuracy Tolerance (Factory Calibration) Time Delay vs. Temperature & Voltage Reset Time	0.05 s ... 600 s in 4 adjustable ranges or fixed +/-2% or 20 ms, whichever is greater ≤ +/-5% ≤ +/-10% ≤ 150 ms
Input Voltage Tolerance Line Frequency Power Consumption	24, 120, or 230 V AC +/-20% 50 ... 60 Hz ≤ 2 VA
Output Type Form Maximum Load Current Off State Leakage Current Voltage Drop	Solid state Normally Open, closed before & during timing 1 A steady state, 10 A inrush at 60°C ≅ 5 mA at 230 V AC ≅ 2.5 V at 1 A
Protection Circuitry Dielectric Breakdown Insulation Resistance	Encapsulated ≥ 2000 V RMS terminals to mounting surface ≥ 100 MΩ
Mechanical Mounting Package Termination	Surface mount with one #10 (M5 x 0.8) screw 2 x 2 x 1.21 in. (50.8 x 50.8 x 30.7 mm) 0.25 in. (6.35 mm) male quick connect terminals
Environmental Operating Temperature Storage Temperature Humidity Weight	-40°C ... +75°C -40°C ... +85°C 95% relative, non-condensing ≅ 2.4 oz (68 g)

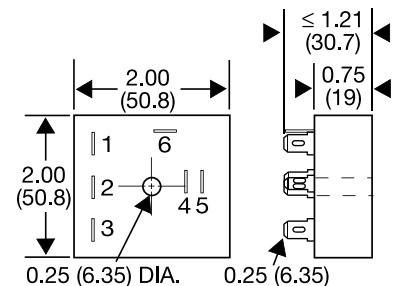
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Desired Time Delay*				R _T Kohms
Seconds				
1	2	3	4	
0.05	0.5	2	5	0
0.3	6	20	60	10
0.6	12	38	120	20
0.9	18	55	180	30
1.2	24	73	240	40
1.5	30	90	300	50
1.8	36	108	360	60
2.1	42	126	420	70
2.4	48	144	480	80
2.7	54	162	540	90
3.0	60	180	600	100

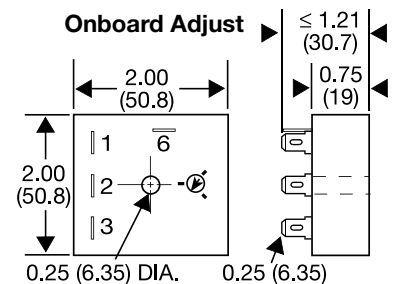
* When selecting an external R_T add at least 20% for tolerance of unit and the R_T.

Mechanical View

Fixed & External Adjust



Onboard Adjust



Inches (Millimeters)