

Delay On Break (Release) TRB Series Time Delay Relay



5

- Knob Adjustable Time Delays
- Fixed or Adjustable Delays from 0.05 ... 600 s in Ranges
- +/-2% Repeat Accuracy
- AC and DC Operating Voltages are Available
- 10 A, Isolated SPDT and DPDT Contacts

Approvals: **

** 8 pin models used in combination with P1011-6 socket only.

Description

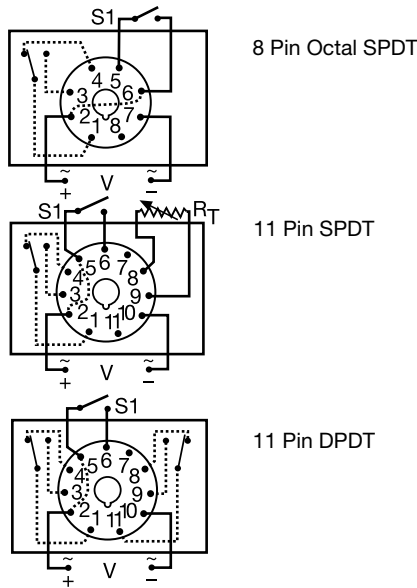
The TRB Series combines a 10 A isolated electromechanical relay output with analog timing circuitry. False trigger of the TRB by a transient is unlikely because of the complete isolation of the circuit from the line prior to initiation. The initiate contact is common to one side of the line and may be utilized to operate other loads. Installation is easy due to the TRB's industry standard 8 or 11 pin plug-in base wiring.

Operation

Input voltage must be applied before and during timing. Upon closure of the initiate switch, the output relay energizes. The time delay begins when the initiate switch is opened (trailing edge triggered). 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 time delay and output.

Connection

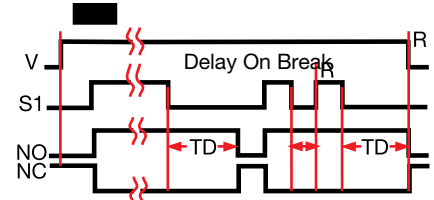


S1 = Initiate Switch

Relay contacts are isolated. Dashed lines are internal connections.

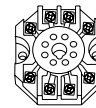
R_t is used when external adjustment is ordered.

Function

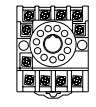


V = Voltage S1 = Initiate Switch TD = Time Delay
R = Reset NO = Normally Open
NC = Normally Closed — = Undefined time

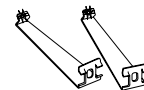
Accessories



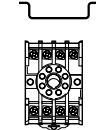
Octal socket for UL Listing
P/N: P1011-6



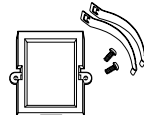
11 pin socket
P/N: NDS-11



Hold down clips
P/Ns:
PSC8 (NDS-8)
PSC11 (NDS-11)



Octal 8 pin socket
P/N: NDS-8



Panel mount kit
P/N: BZ1

See accessory pages for specifications.

Ordering Table

TRB Series	X Input	X Adjustment and Output Form	X Time Tolerance	X Time Delay* (Seconds)
	24A - 24 V AC	1 - Fixed, Octal, SPDT (AC Volts only)	X - +/-20%	0.05 ... 1
	24D - 24 V DC/28 V DC	10 - Fixed, 11 Pin DPDT	Y - +/-10%	0.05 ... 3
	110D - 110 V DC	2 - Knob Adjust, Octal, SPDT (AC Volts only)	Z - +/- 5%	0.1 ... 5
	120A - 120 V AC	3 - Lock Shaft Adjust, Octal, SPDT (AC Volts only)		0.1 ... 10
	230A - 230 V AC	4 - Knob Adjust, 11 Pin, DPDT		1 ... 30
		7 - Ext. Adjust, 11 Pin, SPDT without Potentiometer		1 ... 60
				2 ... 120
				2 ... 180
				7 ... 240
				7 ... 300
				7 ... 360
				7 ... 420
				7 ... 480
				7 ... 600

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

Delay On Break (Release)

TRB Series

Time Delay Relay

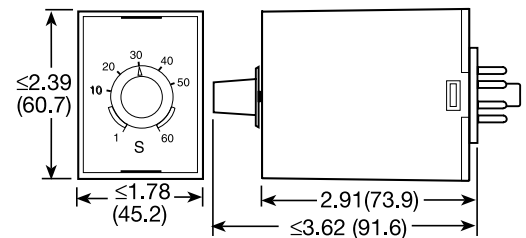
Dedicated
timers

Technical Data

Time Delay		
Type		Analog circuitry
Range		50 ms ... 10 m in 15 adjustable ranges or fixed
Repeat Accuracy		+/-2% or 20 ms, whichever is greater
Fixed Time Tolerance & Setting Accuracy		+/-5, 10, or 20%
Initiate Time		≤ 70 ms
Reset Time		≤ 75 ms
Recycle Time		≤ 250 ms
Time Delay vs. Temperature & Voltage		≤ +/-10%
Input		
Voltage		24 or 110 V DC; 24, 120, or 230 V AC (DC voltages on DPDT output models only)
Tolerance	24 V DC/AC	-15% ... +20%
	110 ... 230 V AC/DC	-20% ... +10%
Frequency		50 ... 60 Hz
Power Consumption		≤ 3.25 W
Output		
Type		Electromechanical relay
Form		Isolated SPDT or DPDT
Rating		10 A resistive at 120/240 V AC & 28 V DC; 1/3 hp at 120/240 V AC
Life		Mechanical: 1 x 10 ⁷ ; Electrical: 1 x 10 ⁶
Protection		
Insulation Resistance		≥ 100 MΩ
Isolation Voltage		≥ 1500 V RMS between input to output
Polarity		DC units are reverse polarity protected
Mechanical		
Mounting		Plug-in socket
Termination		Octal (8 Pin) or 11 Pin plug-in
Package		3.62 x 2.39 x 1.78 in (91.6 x 60.7 x 45.2 mm)
Environmental		
Operating Temperature		-20°C ... +65°C
Storage Temperature		-30°C ... +85°C
Weight		≅ 6 oz (170 g)

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Mechanical View

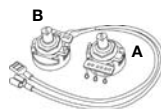


Inches (Millimeters)

Time Delay*	
Range	R _T
Seconds	Megohm
0.05...1	1.0
0.05...2	2.0
0.05...3	3.0
0.1...5	5.0
0.1...10	3.0
1...30	1.5
1...60	3.0
2...120	2.0
2...180	3.0
7...240	1.5
7...300	2.0
7...360	2.0
7...420	3.0
7...480	3.0
7...600	5.0

* When selecting an external R_T add at least 15...30% for tolerance of unit and the R_T.

Accessories



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



Versa-knob
P/N: P0700-7

Figure	Value	Part Number
A	1 M ohm	P1004-16
A	1.5 M ohm	P1004-15
A	2 M ohm	P1004-14
A	3 M ohm	P1004-12
A	5 M ohm	P1004-13
B	1 M ohm	P1004-16-X
B	1.5 M ohm	P1004-15-X
B	2 M ohm	P1004-14-X
B	3 M ohm	P1004-12-X
B	5 M ohm	P1004-13-X

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