

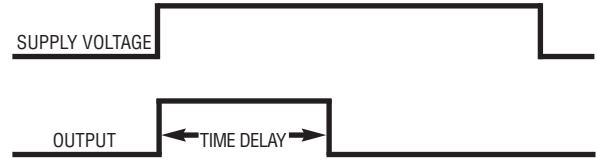


Interval Solid-State Output

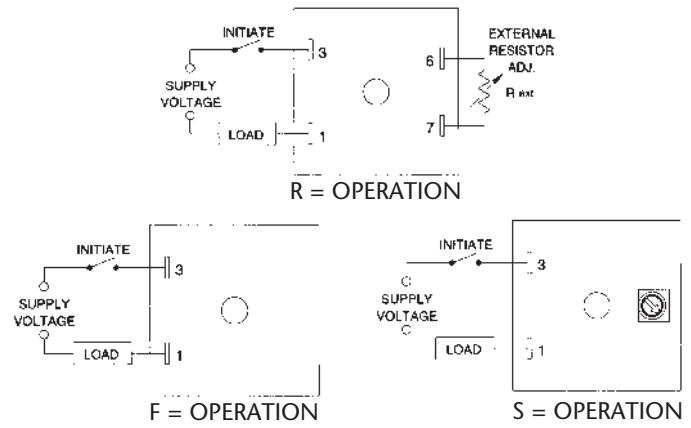
OPERATION

When voltage is applied to the input terminals, the load energizes and the time delay begins. Upon completion of the delay period, the load de-energizes. Reset during or after the delay period is accomplished by removal of the input voltage.

The TSA Series is a two input terminal device that connects in series with the input and load.



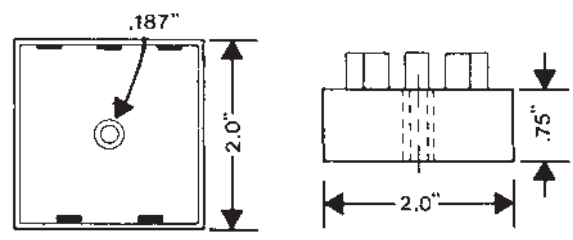
WIRING



SPECIFICATIONS

TIMING RANGES	Virtually unlimited. See page 84 for standard ranges available.	
OUTPUT RATING	Solid-state, SPST-N.C. 1 amp resistive; 1250 VA inrush, 125 VA run @ 120 VAC, inductive.	
TIMING TOLERANCES	Minimum Setting	+0-20%
	Maximum Setting	±10%
REPEATABILITY	1% maximum; no first cycle effect	
RESET TIMES	Before Time Out	100 mSEC
	After Time Out	50 mSEC
RECYCLE TIME	40 mSEC	
SUPPLY VOLTAGE	24 to 240 ±10% VAC, 50/60 Hz	
FALSE TRANSFER	No	
DUTY CYCLE	Continuous	
ENCLOSURE	Surface mounted; totally encapsulated with a high quality epoxy for environmental protection.	
TEMPERATURE RATING	Operate	32° to 131°F (0° to +55°C)
	Storage	-49° to 185°F (-45° to +85°C)
TERMINATIONS	1/4" quick disconnect terminals	
WEIGHT	NET: 1.28 oz	Shipping: 1.6 oz.

DIMENSIONS (INCHES)



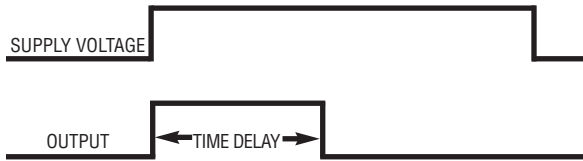
MODEL NUMBER >>>>>	TSA	100	A	C
Type of Operation				
			Fixed	F
			External Resistor Adjustable; See page 84 for resistor selection.	R
			Screwdriver Adjustable	S
Delay Period				
See page 84 for standard ranges available				

Solid-State Output // TSA Series

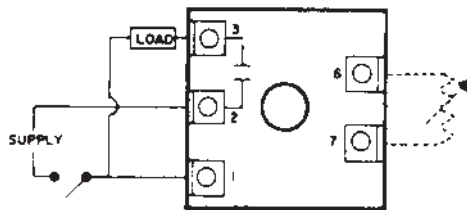
OPERATION

When voltage is applied to the input terminals, the load energizes and the time delay begins. Upon completion of the delay period, the load de-energizes. Reset during or after the delay period is accomplished by removal of the input voltage.

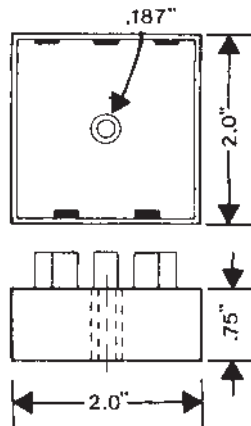
The TSB Series is a three input terminal device.



WIRING



DIMENSIONS (INCHES)



MODEL NUMBER >>>>>>	TSB	A	C
Supply Voltage			
24 VAC	24		
120 VAC	120		
240 VAC	240		
Type of Operation			
Fixed		F	
External Resistor Adjustable; See page 84 for resistor selection		R	
Screwdriver Adjustable		S	
Delay Period			

See page 84 for standard ranges available

Example:
TSB-120-ARC-100—Interval on operate, 120 VAC, external resistor adjustable from 1 to 100 seconds.

* The TSA Series is only UL Recognized in the 120VAC model. For 24VAC model contact the factory for availability.



Interval Solid-State Output

SPECIFICATIONS

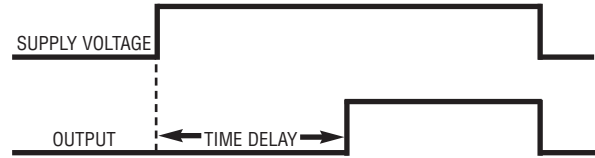
TIMING RANGES	Virtually unlimited. See page 84 for standard ranges available.	
OUTPUT RATING	Solid-state, SPST-N.O. 1 amp resistive; 1250 VA inrush, 125 VA run @ 120 VAC, inductive.	
TIMING TOLERANCES	Minimum Setting	+0–20%
	Maximum Setting	±10%
REPEATABILITY	1% maximum; no first cycle effect	
RESET TIMES	Before Time Out	100 mSEC
	After Time Out	50 mSEC
RECYCLE TIME	40 mSEC	
SUPPLY VOLTAGE	24, 120, or 240 VAC, 50/60 Hz; ±10%	
FALSE TRANSFER	No	
DUTY CYCLE	Continuous	
ENCLOSURE	Surface mounted; totally encapsulated with a high quality epoxy for environmental protection.	
TEMPERATURE RATING	Operate	32° to 131°F (0° to +55°C)
	Storage	-49° to 185°F (-45° to +85°C)
TERMINATIONS	1/4" quick disconnect terminals	
WEIGHT	NET: 1.28 oz	Shipping: 1.6 oz.



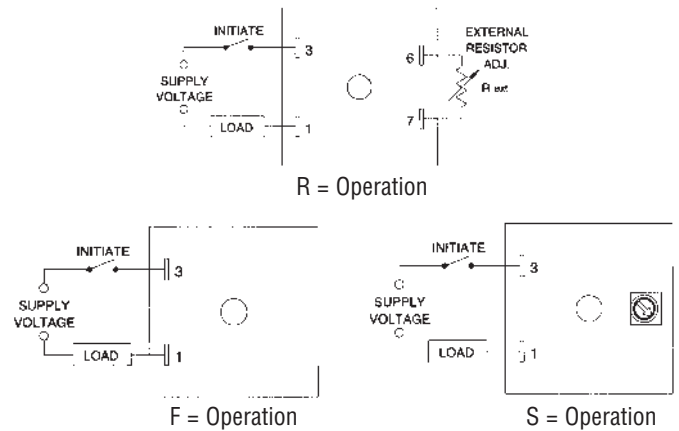
ON-Delay Solid-State Output

OPERATION

The time delay begins when power is applied to the timer. Upon completion of the delay period, the load energizes. Reset during or after the delay period is accomplished by removal of the input voltage. The TSC will not false transfer if voltage is removed prior to completion of the delay period. A fast recycle time permits accurate, high speed, continuous operation.



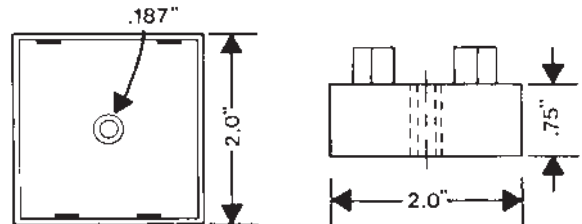
WIRING



SPECIFICATIONS

TIMING RANGES	Virtually unlimited. See page 84 for standard ranges available.	
OUTPUT RATING	Solid-state, SPST-N.C. 1 amp resistive; 1250 VA inrush, 125 VA run @ 120 VAC, inductive.	
TIMING TOLERANCES	Minimum Setting	+0-20%
	Maximum Setting	±10%
REPEATABILITY	1% maximum; no first cycle effect	
RESET TIMES	Before Time Out	100 mSEC
	After Time Out	50 mSEC
RECYCLE TIME	40 mSEC	
SUPPLY VOLTAGE	12 to 240 VDC, 24 to 240 VAC ±10%, 50/60 Hz	
FALSE TRANSFER	No	
DUTY CYCLE	Continuous	
ENCLOSURE	Surface mounted; totally encapsulated with a high quality epoxy for environmental protection.	
TEMPERATURE RATING	Operate	32° to 131°F (0° to +55°C)
	Storage	-49° to 185°F (-45° to +85°C)
TERMINATIONS	1/4" quick disconnect terminals	
WEIGHT	NET: 1.28 oz	Shipping: 1.6 oz.

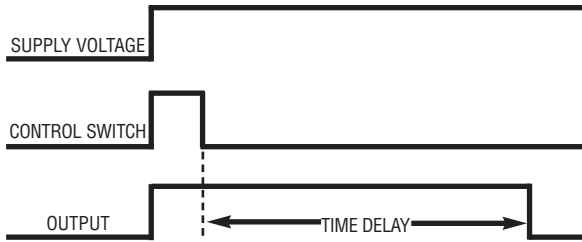
DIMENSIONS (INCHES)



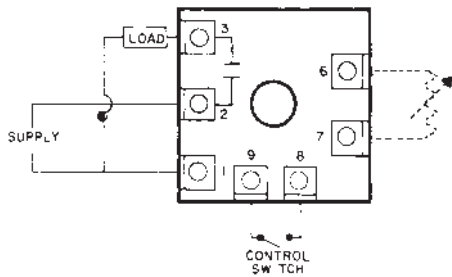
MODEL NUMBER >>>>>	TSC	100	A	C	
Type of Operation					
				Fixed	F
				External Resistor Adjustable	R
				Screwdriver Adjustable; See page 84 for resistor selection	S
Delay Period					
See page 84 for standard ranges available					
Example: TSC-100-ARC-100—Delay on operate, external resistor adjustable from 1 to 100 seconds.					

OPERATION

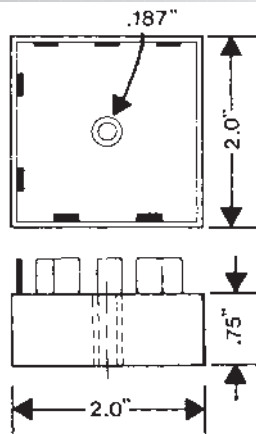
Voltage is continuously applied to the input. An external isolated switch controls the timer. When closed, the load energizes. Opening the switch initiates the delay period. Upon completion of the delay period, the load de-energizes. If the control switch recloses during the delay period, the load remains energized and the timer resets to zero.



WIRING



DIMENSIONS (INCHES)



MODEL NUMBER >>>>>>	TSD	A	C
Supply Voltage			
120 VAC	120		
240 VAC	240		
Type of Operation			
Fixed		F	
External Resistor Adjustable See page 84 for resistor selection		R	
Delay Period			
See page 84 for standard ranges available			

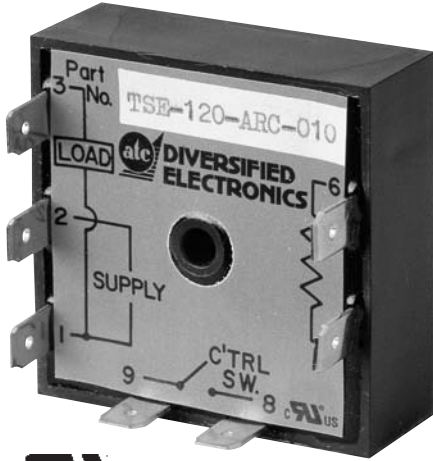
Example:
TSD-120-ARC-200—Delay on Release, 120 VAC, external resistor adjustable from 2 to 200 seconds.



OFF-Delay Solid-State Output

SPECIFICATIONS

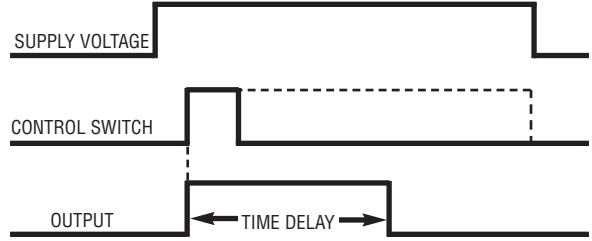
TIMING RANGES	Virtually unlimited. See page 84 for standard ranges available.	
OUTPUT RATING	Solid-state, SPST-N.O. 1 amp resistive; 1250 VA inrush, 125 VA run @ 120 VAC, inductive.	
TIMING TOLERANCES	Minimum Setting	+0–20%
	Maximum Setting	±10%
REPEATABILITY	1% maximum; no first cycle effect	
RESET TIMES	Before Time Out	100 mSEC
	After Time Out	50 mSEC
RECYCLE TIME	40 mSEC	
SUPPLY VOLTAGE	120, or 240 VAC, 50/60 Hz; ±10%	
FALSE TRANSFER	No	
DUTY CYCLE	Continuous	
ENCLOSURE	Surface mounted; totally encapsulated with a high quality epoxy for environmental protection.	
TEMPERATURES RATING	Operate	32° to 131°F (0° to +55°C)
	Storage	-49° to 185°F (-45° to +85°C)
TERMINATIONS	1/4" quick disconnect terminals	
WEIGHT	NET: .96 oz.	Shipping: 1.28 oz.



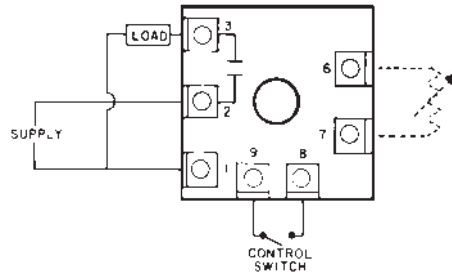
Single Shot Solid-State Output

OPERATION

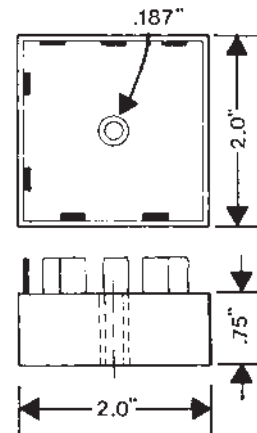
Voltage is continuously applied to the input. An external isolated switch controls the timer. When closed (momentary or maintained), the load energizes and the delay period begins. Upon completion of the delay period, the load de-energizes.



WIRING



DIMENSIONS (INCHES)



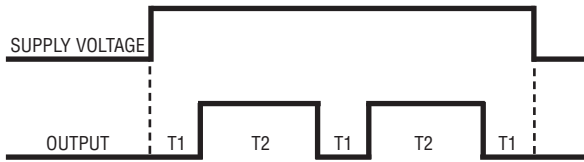
SPECIFICATIONS

TIMING RANGES	Virtually unlimited. See page 84 for standard ranges available.	
OUTPUT RATING	Solid-state, SPST-N.O. 1 amp resistive; 1250 VA inrush, 125 VA run @ 120 VAC, inductive.	
TIMING TOLERANCES	Minimum Setting	+0-20%
	Maximum Setting	±10%
REPEATABILITY	1% maximum; no first cycle effect	
RESET TIMES	Before Time Out	100 mSEC
	After Time Out	50 mSEC
RECYCLE TIME	40 mSEC	
SUPPLY VOLTAGE	24, 120, or 240 VAC, 50/60 Hz; ±10%	
FALSE TRANSFER	No	
DUTY CYCLE	Continuous	
ENCLOSURE	Surface mounted; totally encapsulated with a high quality epoxy for environmental protection.	
TEMPERATURE RATING	Operate	32° to 131°F (0° to +55°C)
	Storage	-49° to 185°F (-45° to +85°C)
TERMINATIONS	1/4" quick disconnect terminals	
WEIGHT	NET: 1.28 oz	Shipping: 1.6 oz.

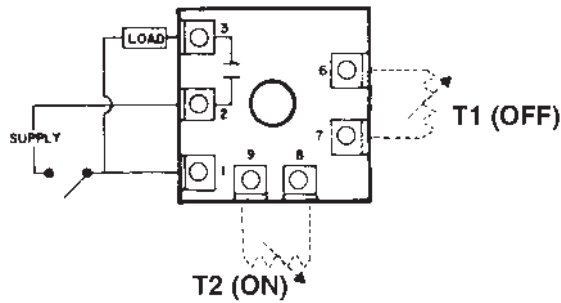
MODEL NUMBER >>>>>>	TSE	A	C
Supply Voltage			
	24 VAC	24	
	120 VAC	120	
	240 VAC	240	
Type of Operation			
	Fixed	F	
	External Resistor Adjustable See page 84 for resistor selection	R	
Delay Period			
See page 84 for standard ranges available			
Example: TSE-120-AFC-180—Single shot, 120 VAC, fixed delay of 180 seconds.			

OPERATION

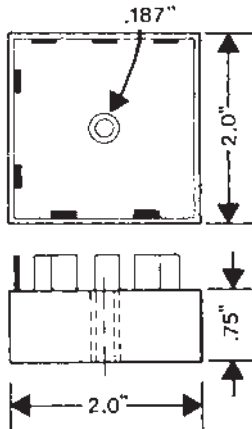
Application of voltage to the input of the timer initiates the OFF time. Upon completion of the OFF time, the load energizes and the ON time begins. Upon completion of the ON time, the load de-energizes and one cycle is completed. This OFF/ON cycling continues until voltage is removed from the input. The OFF/ON time periods are independently adjustable.



WIRING



DIMENSIONS (INCHES)



MODEL NUMBER >>>>>>	TSF	A	C
Supply Voltage			
24 VAC	24		
120 VAC	120		
240 VAC	240		
Type of Operation			
Fixed	F		
External Resistor Adjustable See page 84 for resistor selection	R		
Delay Period			
See page 84 for standard ranges available			

Example:
TSF-24-ARC-300—Repeat cycle, 24 VAC, both delays independently adjustable from 3 to 300 seconds, UL Recognized.

Repeat Cycle OFF-Time First Solid-State Output



SPECIFICATIONS

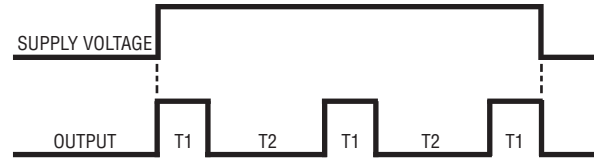
TIMING RANGES	Virtually unlimited. See page 84 for standard ranges available.	
OUTPUT RATING	Solid-state, SPST-N.O. 1 amp resistive; 1250 VA inrush, 125 VA run @ 120 VAC, inductive.	
TIMING TOLERANCES	Minimum Setting	+0–20%
	Maximum Setting	±10%
REPEATABILITY	1% maximum; no first cycle effect	
RESET TIMES	Before Time Out	100 mSEC
	After Time Out	50 mSEC
SUPPLY VOLTAGE	24, 120, or 240 VAC, 50/60 Hz; ±10%	
FALSE TRANSFER	No	
ENCLOSURE	Surface mounted; totally encapsulated with a high quality epoxy for environmental protection.	
TEMPERATURE RATING	Operate	32° to 131°F (0° to +55°C)
	Storage	-49° to 185°F (-45° to +85°C)
TERMINATIONS	1/4" quick disconnect terminals	
WEIGHT	NET: 1.28 oz	Shipping: 1.6 oz



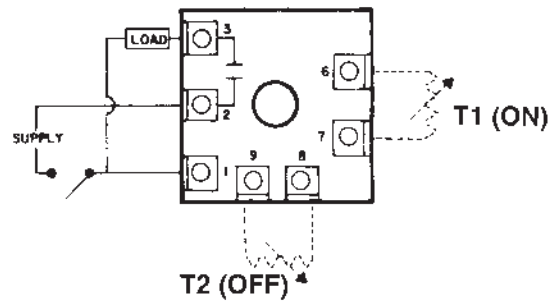
Repeat Cycle ON-Time First Solid-State Output

OPERATION

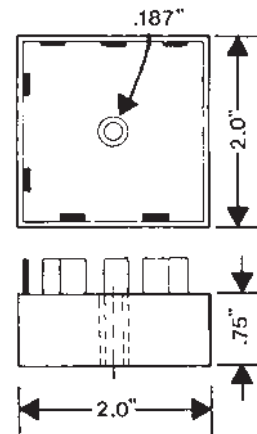
Application of voltage to the input of the timer energizes the load and initiates the ON time. Upon completion of the ON time, the load de-energizes and the OFF time begins. Upon completion of the OFF time, the load energizes and one cycle is completed. This ON/OFF cycling continues until voltage is removed from the input. The ON/OFF time periods are independently adjustable.



WIRING



DIMENSIONS (INCHES)



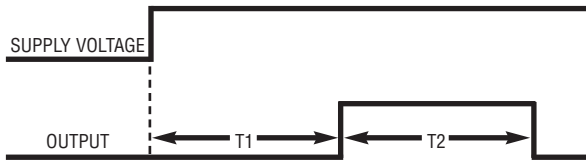
SPECIFICATIONS

TIMING RANGES	Virtually unlimited. See page 84 for standard ranges available.	
OUTPUT RATING	Solid-state, SPST-N.O. 1 amp resistive; 1250 VA inrush, 125 VA run @ 120 VAC, inductive.	
TIMING TOLERANCES	Minimum Setting	+0-20%
	Maximum Setting	±10%
REPEATABILITY	1% maximum; no first cycle effect	
RESET TIMES	Before Time Out	100 mSEC
	After Time Out	50 mSEC
RECYCLE TIME	40 mSEC	
SUPPLY VOLTAGE	24, 120, or 240 VAC, 50/60 Hz; ±10%	
FALSE TRANSFER	No	
ENCLOSURE	Surface mounted; totally encapsulated with a high quality epoxy for environmental protection.	
TEMPERATURE RATING	Operate	32° to 131°F (0° to +55°C)
	Storage	-49° to 185°F (-45° to +85°C)
TERMINATIONS	1/4" quick disconnect terminals	
WEIGHT	NET: 1.28 oz	Shipping: 1.6 oz

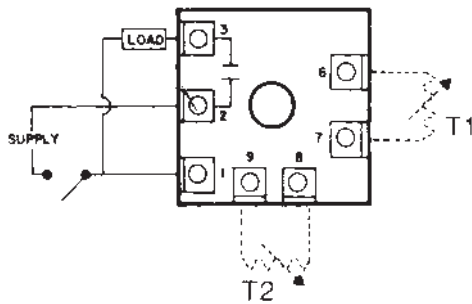
MODEL NUMBER >>>>>	TSG	A	C
Supply Voltage			
	24 VAC	24	
	120 VAC	120	
	240 VAC	240	
Type of Operation			
		Fixed	F
		External Resistor Adjustable See page 84 for resistor selection	R
Delay Period			
See page 84 for standard ranges available			
Example: TSG-24-ARC-300—Repeat cycle, 24 VAC, both delays independently adjustable from 3 to 300 seconds.			

OPERATION

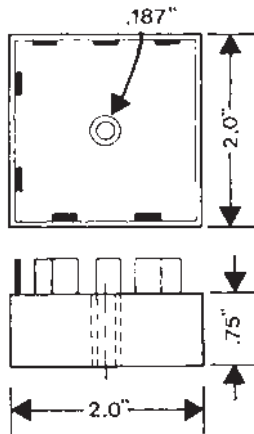
Application of voltage to the input of the timer initiates the OFF time. Upon completion of the OFF time, the load energizes and the ON time begins. Upon completion of the ON time, the load de-energizes and the cycle is complete. Reset during or after the time periods is accomplished by removal of the input voltage. The OFF/ON time periods are independently adjustable.



WIRING



DIMENSIONS (INCHES)



MODEL NUMBER >>>>>>	TSH	A	C
Supply Voltage			
24 VAC	24		
120 VAC	120		
240 VAC	240		
Type of Operation			
Fixed		F	
External Resistor Adjustable See page 84 for resistor selection			R
Delay Period			
See page 84 for standard ranges available			
Example: TSH-120-AFC-015—Delayed interval, 120 VAC, both delays fixed at 15 seconds, UL Recognized.			



Delayed Interval Solid-State Output

SPECIFICATIONS

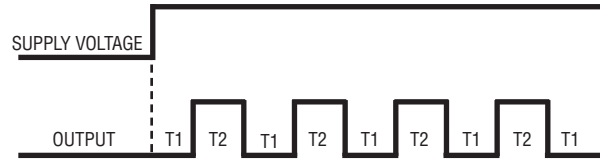
TIMING RANGES	Virtually unlimited. See page 84 for standard ranges available.	
OUTPUT RATING	Solid-state, SPST-N.O. 1 amp resistive; 1250 VA inrush, 125 VA run @ 120 VAC, inductive.	
TIMING TOLERANCES	Minimum Setting	+0–20%
	Maximum Setting	±10%
REPEATABILITY	1% maximum; no first cycle effect	
RESET TIMES	Before Time Out	100 mSEC
	After Time Out	50 mSEC
RECYCLE TIME	40 mSEC	
SUPPLY VOLTAGE	24, 120, or 240 VAC, 50/60 Hz; ±10%	
FALSE TRANSFER	No	
DUTY CYCLE	Continuous	
ENCLOSURE	Surface mounted; totally encapsulated with a high quality epoxy for environmental protection.	
TEMPERATURE RATING	Operate	32° to 131°F (0° to +55°C)
	Storage	-49° to 185°F (-45° to +85°C)
TERMINATIONS	1/4" quick disconnect terminals	
WEIGHT	NET: .96 oz	Shipping: 1.28 oz



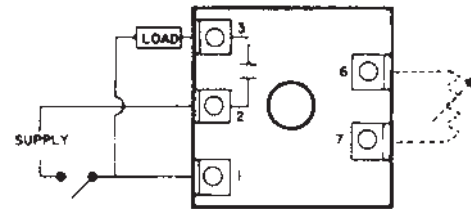
Flasher Solid-State Output

OPERATION

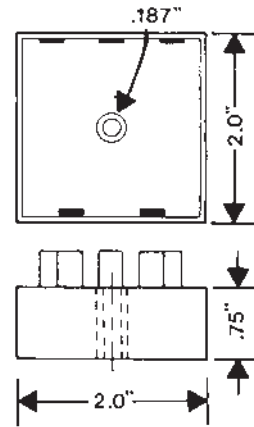
When power is applied, the OFF time begins. Upon completion of the OFF time, the load energizes and the ON time begins. Upon completion of the ON time, the load de-energizes and one cycle is complete. This OFF/ON cycling continues until the voltage is removed. THE OFF TIME ALWAYS EQUALS THE ON TIME.



WIRING



DIMENSIONS (INCHES)



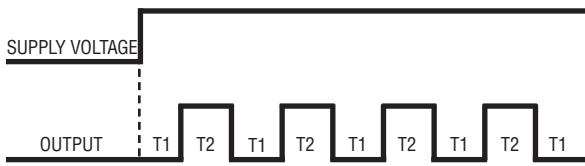
SPECIFICATIONS

OUTPUT RATING	Solid-state, SPST-N.O.; 250 VA inrush, 25 VA run, inductive or 1 amp resistive @ 24 VAC; 1250 VA inrush, 125 VA run, inductive or 1 amp resistive @ 120 VAC.	
DELAY PERIOD	Up to 2 hours fixed or external resistor adjustable; see page 84 for standard ranges.	
LOAD TYPE	Resistive, incandescent, or inductive.	
SUPPLY VOLTAGE	24, 120, or 240 VAC, 50/60 Hz; ±10%	
FALSE TRANSFER	No	
ENCLOSURE	Surface mounted; totally encapsulated with a high quality epoxy for environmental protection.	
TEMPERATURE RATING	Operate	32° to 131°F (0° to +55°C)
	Storage	-49° to 185°F (-45° to +85°C)
TERMINATIONS	1/4" quick disconnect terminals	
WEIGHT	NET: 1.28 oz	Shipping: 1.6 oz

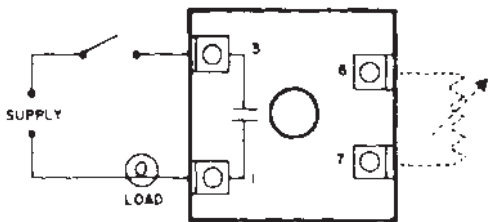
MODEL NUMBER >>>>>	TSK	A	C
Supply Voltage			
	24 VAC	24	
	120 VAC	120	
	240 VAC	240	
Type of Operation			
	Fixed	F	
	External Resistor Adjustable See page 84 for resistor selection	R	
Delay Period			
See page 84 for standard ranges available			
Example: TSG-24-ARC-300—Repeat cycle, 24 VAC, both delays independently adjustable from 3 to 300 seconds.			

OPERATION

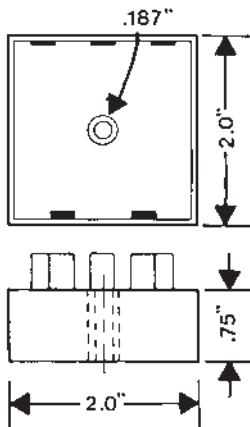
When power is applied, the OFF time begins. Upon completion of the OFF time, the load energizes and the ON time begins. Upon completion of the ON time, the load de-energizes and one cycle is complete. This OFF/ON cycling continues until the voltage is removed. THE OFF TIME ALWAYS EQUALS THE ON TIME.



WIRING



DIMENSIONS (INCHES)



ORDERING INFORMATION

MODEL NUMBER	Supply	Flash Rate
TSL- 24-AFC- 75	24 VAC	75/Minute
TSL- 24-AFC- 90	24 VAC	90/Minute
TSL-120-AFC- 75	120 VAC	75/Minute
TSL-120-AFC- 90	120 VAC	90/Minute
TSL- 24-ARC-100	24 VAC	10 to 100 adj.
TSL-120-ARC-100	120 VAC	10 to 100 adj.



Flasher Solid-State Output



SPECIFICATIONS

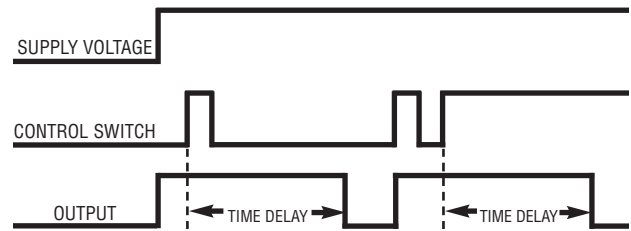
OUTPUT RATING	Solid-state, half wave rectified AC; 250 VA inrush, 25 VA run, inductive or 1 A, resistive @ 24 VAC. 1250 VA inrush, 125 VA run, inductive or 1 A resistive @ 120 VAC.	
SUPPLY VOLTAGE	24, 120, or 240 VAC, 50/60 Hz; ±10%	
FALSE TRANSFER	No	
LOAD TYPE	Resistive or incandescent only	
FLASH RATE	Factory preset (fixed) or external resistor adjustable from 10 to 100 flashes per minute.	
TEMPERATURE RATING	Operate	32° to 131°F (0° to +55°C)
	Storage	-49° to 185°F (-45° to +85°C)
TERMINATION	1/4" quick disconnect terminals	
WEIGHT	NET: 1.28 oz	Shipping: 1.6 oz



Energy Conservation Timer Solid-State Output

OPERATION

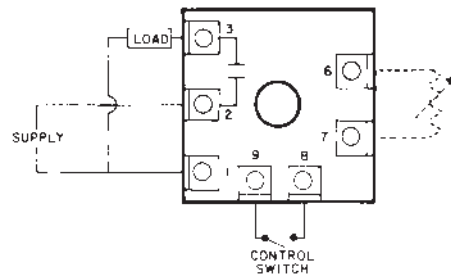
When voltage is applied to the input, the internal relay picks up and the time delay begins regardless of the position of the control switch. With the switch in the open position, when voltage is applied, the timer will complete its time delay period and the internal relay will drop out if the switch is not closed before the completion of the time delay period. With the switch in the closed position, when voltage is applied, the timer will complete its time delay period and the internal relay will drop out if the switch is not opened and reclosed before the completion of the time delay period. After voltage has been applied, closing of the control switch initiates the time delay period. Reset is accomplished by interrupting the supply voltage or re-closing the control switch.



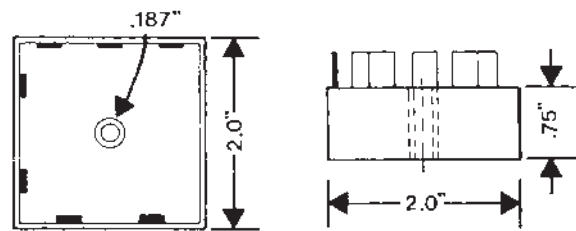
SPECIFICATIONS

TIMING RANGES	Virtually unlimited. See page 84 for standard ranges available.	
OUTPUT RATING	Solid-state, SPST-N.C. 1 amp resistive; 1250 VA inrush, 125 VA run @ 120 VAC, inductive.	
TIMING TOLERANCES	Minimum Setting	+0-20%
	Maximum Setting	±10%
REPEATABILITY	1% maximum; no first cycle effect	
RESET TIMES	Before Time Out	100 mSEC
	After Time Out	50 mSEC
RECYCLE TIME	40 mSEC	
SUPPLY VOLTAGE	24, 120, or 240 VAC, 50/60 Hz; ±10%	
FALSE TRANSFER	No	
REVERSE POLARITY	Yes	
ENCLOSURE	Surface mounted; totally encapsulated with a high quality epoxy for environmental protection.	
TEMPERATURE RATING	Operate	32° to 131°F (0° to +55°C)
	Storage	-49° to 185°F (-45° to +85°C)
TERMINATIONS	1/4" quick disconnect terminals	
WEIGHT	NET: 1.28 oz	Shipping: 1.6 oz

WIRING

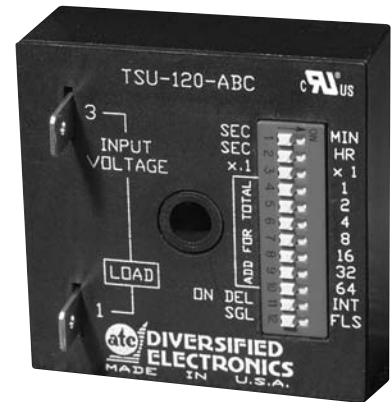


DIMENSIONS (INCHES)



MODEL NUMBER >>>>>>	TSM	A	C
Supply Voltage			
24 VAC	24		
120 VAC	120		
240 VAC	240		
Type of Operation			
Fixed		F	
External Resistor Adjustable See page 84 for resistor selection		R	
Delay Period			
See page 84 for standard ranges available			
Example: TSM-120-ARC-060—Energy conservation timer, 120 VAC, external resistor adjustable from 0.6 to 60 seconds, style "C" enclosure, UL Recognized.			

- Universal Control Voltage (108 to 264VAC, 50/60Hz)
- Multi-Mode (Single & Repeat - Delay On Operate, Interval On Operate)
- Solid State Output
- Crystal Controlled for High Accuracy
- Timing Range of 0.1 Sec to 127 Hrs.



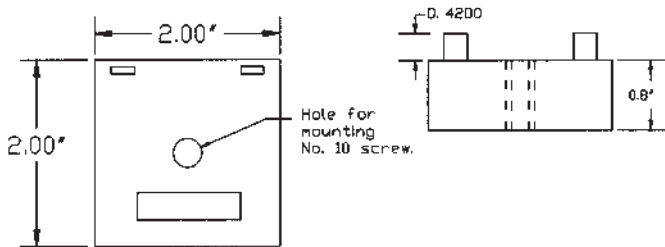
Universal Binary Switch Timer

OPERATION

Up to four (4) modes of operation are switch selectable by switch positions 11 and 12. The delay units are selected by positions 1-2 for Seconds, Minutes or Hours. Switch position 3 selects a multiplying factor of 1/10th (x.1) or 1 (x1). Digital selection of the time delay is accomplished by use of binary switch positions 4-10, each marked with a time increment. The time period represented by each switch in the ON position is added together to obtain the desired time delay.

Reset during or after the delay period is accomplished by removal of the control voltage.

DIMENSIONS (INCHES)



ORDERING INFORMATION

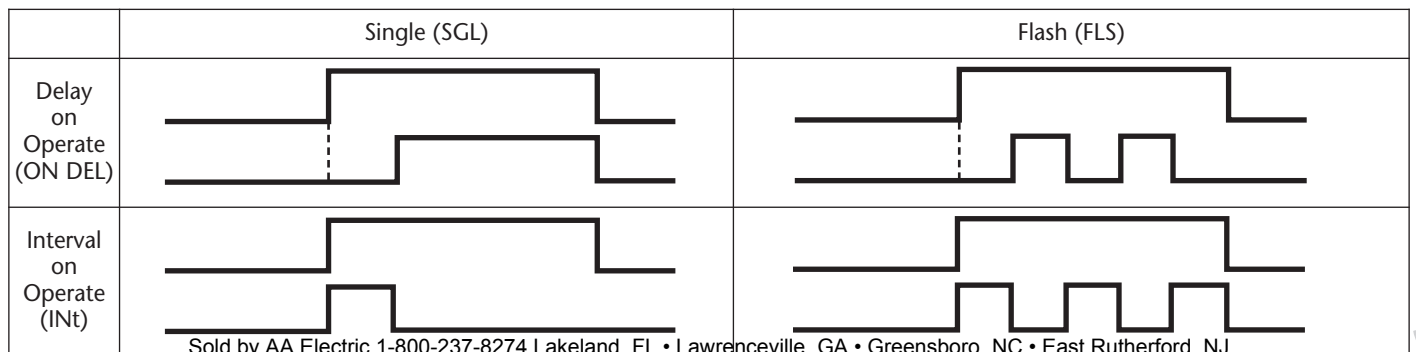
MODEL NUMBER	TSU-120-ABC
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MODES OF OPERATION

OFF	SWITCH POSITION	ON
SEC	1	MIN
SEC	2	HR
x.1	3	x1
0	4	1
0	5	2
0	6	4
0	7	8
0	8	16
0	9	32
0	10	64
ON DEL	11	INT
SGL	12	FLS

SPECIFICATIONS

TIMING RANGE	0.1 Second to 127 Hours	
OUTPUT RATING	Solid State, SPST-N.O., 1A Max, 0.01 Min, Resistive	
MODES OF OPERATION	Programmable, see diagram	
RESET TIMES	Output Off	450 mSEC
	Output On	180 mSEC
RECYCLE TIME	100 mSEC	
CONTROL VOLTAGE	108 to 264 VAC, 50/60Hz	
LEAKAGE CURRENT	5.5mA @ 120V, 11mA @ 260V	
FALSE TRANSFER	No	
ACCURACY	Crystal Controlled	
ENCLOSURE	2x2 surface mounted, partially encapsulated with a high quality epoxy for environmental protection	
TEMPERATURE RATING	Operate	32° to 131°F (0° to +55°C)
	Storage	-49° to 185°F (-45° to +85°C)
WEIGHT	2 oz.	



Sold by AA Electric 1-800-237-8274 Lakeland, FL • Lawrenceville, GA • Greensboro, NC • East Rutherford, NJ

Web : www.A-Aelectric.com Email : njsales@aa-electric.com