

# Single Shot (Pulse Former) TSS Series Timing Module



10 YEAR WARRANTY

**Obsolete Specification**  
Redesigned product is available  
see new specifications at:  
[www.ssac.com/standard/standard.htm](http://www.ssac.com/standard/standard.htm)

- Expands or D
  - Momentary
  - Operat
  - Total
  - Encaps
  - Fixed or
  - Repeat AC
- Counters, Lamps  
Against Shock & Vibration  
Delays From 0.05 ... 600 s  
+/-2%

### Description

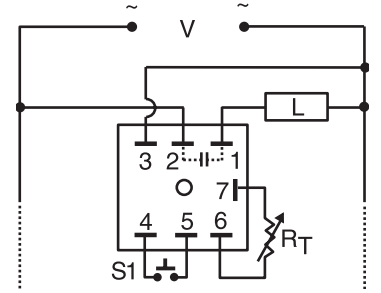
The TSS is all solid state, an excellent method of time control for exposures, dispensing or just increasing or decreasing a switch closure. The load is operated directly through a solid state switch, there are no mechanical contacts.

### Operation

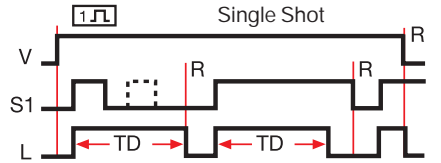
Input voltage must be applied to the input before and during timing. Upon momentary or maintained closure of the initiate switch, the output is energized for a measured interval of time. At the end of the delay, the output de-energizes. Opening or reclosing the initiate switch during timing has no effect on the time delay. The output will energize if the initiate switch is closed when input voltage is applied.

**Reset:** Reset occurs when the time delay is complete and the initiate switch is opened. Loss of input voltage resets the time delay and output.

- Approvals:



R<sub>T</sub> is used when external adjustment is ordered.



V = Voltage L = Load S1 = Initiate Switch  
TD = Time Delay R = Reset

### Ordering table

TSS 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 - 2 ... 180 s
			-4 - 5 ... 600 s

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

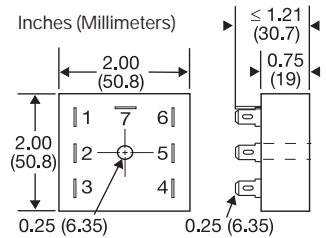
Example P/N: TSS422 Fixed - TSS410.5

Desired Time Delay*				R <sub>T</sub>
Seconds				
1	2	3	4	Megohm
0.05	0.5	2	5	0.0
0.5	10	30	60	0.5
1.0	20	60	120	1.0
1.5	30	90	180	1.5
2.0	40	120	240	2.0
2.5	50	150	300	2.5
3.0	60	180	360	3.0
			420	3.5
			480	4.0
			540	4.5
			600	5.0

\* When selecting an external R<sub>T</sub> add at least 20% for tolerance of unit and the R<sub>T</sub>.

### Technical Data

<b>Time Delay</b>	
Type	Analog circuitry
Range	0.05 s ... 600 s in 4 adjustable ranges or fixed
Repeat Accuracy	+/-2% under fixed conditions
Tolerance (Factory Calibration)	≤ +/-10%
Time Delay vs. Temperature & Voltage	≤ +/-10%
<b>Input</b>	
Voltage	24, 120, or 230 V AC
Tolerance	+/-20%
Line Frequency	50 ... 60 Hz
<b>Output</b>	
Type	Solid state
Form	Normally Open, closed during timing
Maximum Load Current	1 A steady state, 10 A inrush at 55°C
Minimum Operating Current	≤ 20 mA
Voltage Drop	≅ 2.5 V at 1 A
<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
Package	2 x 2 x 1.21 in. (50.8 x 50.8 x 30.7 mm)
Termination	0.25 in. (6.35 mm) male quick connect terminals
<b>Environmental</b>	
Operating/Storage Temperature	-40°C ... +75°C / -40°C ... +85°C
Humidity	95% relative, non-condensing
Weight	≅ 2.4 oz (68 g)



### Accessories

- Mounting bracket  
P/N: P1023-6
- External adjust potentiometer  
P/N: P1004-XX
- Female quick connect  
P/N: P1015-64
- Plug-on adjustment module  
P/N: VTR(X)(X)
- Quick connect to screw adaptor  
P/N: P1015-18
- Versa-knob  
P/N: P0700-7
- DIN rail adaptor  
P/N: P1023-20

DIN rail P/Ns: C103PM (Al) 17322005 (Steel)

Time Delay	VTR P/N	Fig. A P/N	Fig. B P/N
1 - 0.05 ... 3 s	VTR4B	P1004-12	P1004-12-X
2 - 0.5 ... 60 s	VTR4F	P1004-12	P1004-12-X
3 - 2 ... 180 s	VTR4J	P1004-12	P1004-12-X
4 - 5 ... 600 s	VTR5N	P1004-13	P1004-13-X

See accessory pages at the end of this section.