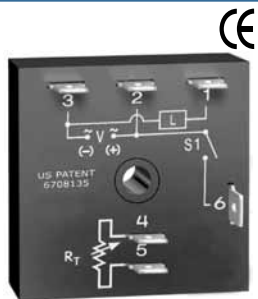


# Single Shot (Pulse Former)

## TSS Series

### Timing Module

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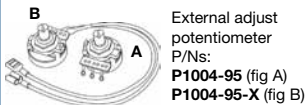


10  
YEAR  
WARRANTY

- Expands or Decreases Switch Closures
- Momentary or Maintained Initiate Switch
- Totally Solid State
- Encapsulated to Protect Against Shock & Vibration
- Fixed or Adjustable Delays From 0.05 ... 600 s in 4 Ranges
- +/-2% Repeat Accuracy
- +/-5% Factory Calibration

Approvals:

#### Accessories



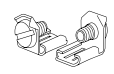
External adjust potentiometer  
P/Ns:  
P1004-95 (fig A)  
P1004-95-X (fig B)



Mounting bracket  
P/N: P1023-6



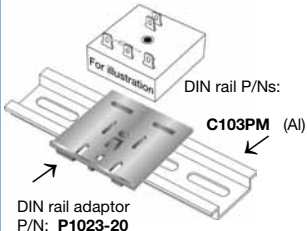
Female quick connect  
P/N:  
P1015-64 (AWG 14/16)



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



Versa-knob  
P/N: P0700-7



DIN rail adaptor  
P/N: P1023-20

See accessory pages for specifications.

#### Description

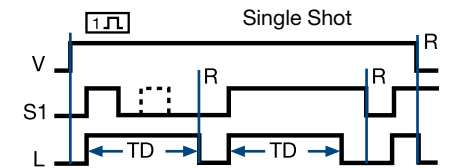
The TSS is a totally solid state timing module. Its 1 A rated solid state output provides an excellent method of time control for exposures, dispensing, or for increasing or decreasing a switch closure. Time delays from 0.05 to 600 seconds, in 4 ranges, cover 90% of all OEM applications. Factory calibration of fixed delays is +/-5% and the repeat accuracy is +/-2%. The TSS can be surface mounted with a single screw, or snapped on a 35mm DIN rail using the P1023-20 accessory adaptor.

#### Operation

Voltage must be applied before and during timing. Upon momentary or maintained closure of the initiate switch, the output energizes 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.

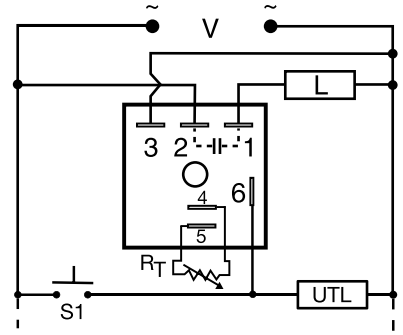
**Reset:** Reset occurs when the time delay is complete and the initiate switch opens. Loss of input voltage resets the time delay and output.

#### Function



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

#### Connection



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

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

#### Available Models-

|          |        |         |
|----------|--------|---------|
| TSS410.5 | TSS412 | •TSS421 |
| •TSS422  | TSS424 | TSS433  |
| TSS622   | TSS624 |         |

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

#### Ordering Table

|               |               |                      |                    |
|---------------|---------------|----------------------|--------------------|
| <b>TSS</b>    | <b>X</b>      | <b>X</b>             | <b>X</b>           |
| <b>Series</b> | <b>Input</b>  | <b>Adjustment</b>    | <b>Time Delay*</b> |
|               | -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 A  | -3 - Onboard Adjust  | -3 - 2 ... 180 s   |
|               |               |                      | -4 - 5 ... 600 s   |

Example P/N: TSS422 Fixed – TSS410.5

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

# Single Shot (Pulse Former)

## TSS Series

### Timing Module

Dedicated  
timers

#### Technical Data

|                                      |  |
|--------------------------------------|--|
| <b>Time Delay</b>                    |  |
| Range                                | 0.05 s ... 600 s in 4 adjustable ranges or fixed |
| Repeat Accuracy                      | +/-2% or 20 ms, whichever is greater             |
| Tolerance (Factory Calibration)      | ≤ +/-5%  |
| Reset Time                           | ≤ 150 ms   |
| Initiate Time                        | ≤ 20 ms  |
| Time Delay vs. Temperature & Voltage | ≤ +/-10%   |
| <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 during timing              |
| Maximum Load Current                 | 1 A steady state, 10 A inrush at 60°C            |
| Off State Leakage Current            | ≅ 5 mA at 230 V AC                               |
| 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 Temperature                | - 40°C ... +75°C                                 |
| Storage Temperature                  | - 40°C ... +85°C                                 |
| Humidity                             | 95% relative, non-condensing                     |
| Weight                               | ≅ 2.4 oz (68 g)                                  |

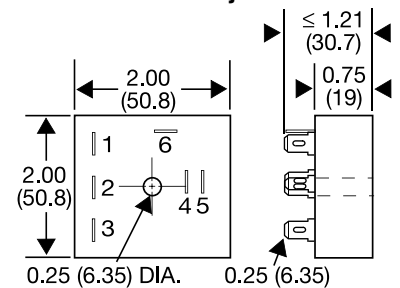
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| Desired Time Delay* |     |     |     |       | R <sub>T</sub> |
|---------------------|-----|-----|-----|-------|----------------|
| Seconds             |     |     |     |       |                |
| 1                   | 2   | 3   | 4   | Kohms |                |
| 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   |                |

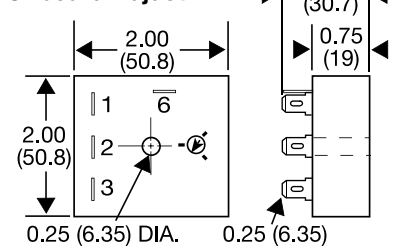
\* When selecting an external R<sub>T</sub> add at least 20% for tolerance of unit and the R<sub>T</sub>.

#### Mechanical View

##### Fixed & External Adjust



##### Onboard Adjust



Inches (Millimeters)