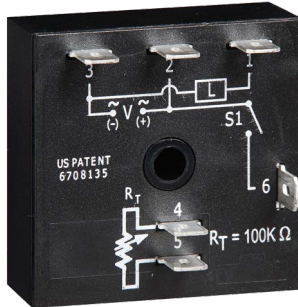
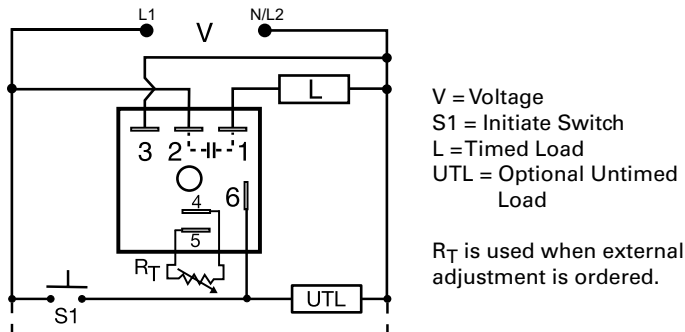


## TSS SERIES



### Wiring Diagram



### Ordering Information

| MODEL    | INPUT VOLTAGE | ADJUSTMENT | TIME DELAY |
|----------|---------------|------------|------------|
| TSS410.5 | 120VAC        | Fixed      | 0.5s       |
| TSS421   | 120VAC        | External   | 0.05 - 3s  |
| TSS422   | 120VAC        | External   | 0.5 - 60s  |
| TSS424   | 120VAC        | External   | 5 - 600s   |
| TSS622   | 230VAC        | External   | 0.5 - 60s  |
| TSS624   | 230VAC        | External   | 5 - 600s   |

If desired part number is not listed, please call us to see if it is technically possible to build.

### Description

The TSS Series is a totally solid-state timing module. Its 1A 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  $\pm 5\%$  and the repeat accuracy is  $\pm 2\%$ . The TSS Series can be surface mounted with a single screw, or snapped on a 35mm DIN rail using the P1023-20 accessory adaptor.

#### Operation (Single Shot)

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.

### Features & Benefits

| FEATURES                                    | BENEFITS                                                                                                         |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Analog circuitry</b>                     | Repeat accuracy + / - 2%,<br>Factory calibration + / - 5%                                                        |
| <b>Compact, low cost design</b>             | Allows flexibility for OEM applications                                                                          |
| <b>Totally solid state and encapsulated</b> | No moving parts to arc and wear out over time and encapsulated to protect against shock, vibration, and humidity |
| <b>Surface or DIN rail mounting</b>         | Provides flexibility for installation                                                                            |

### Accessories

|  |                                                                                                                                                                  |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>P1004-95, P1004-95-X Versa-Pot</b><br>Panel mountable, industrial potentiometer recommended for remote time delay adjustment.                                 |
|  | <b>P1023-6 Mounting bracket</b><br>The 90° orientation of mounting slots makes installation/removal of modules quick and easy.                                   |
|  | <b>P0700-7 Versa-Knob</b><br>Designed for 0.25 in (6.35 mm) shaft of Versa-Pot. Semi-gloss industrial black finish.                                              |
|  | <b>P1015-64 (AWG 14/16) Female Quick Connect</b><br>These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief. |

## TSS SERIES

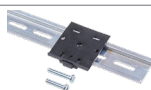
### Accessories



**P1015-18 Quick Connect to Screw Adapter**  
Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.



**C103PM (AL) DIN Rail**  
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



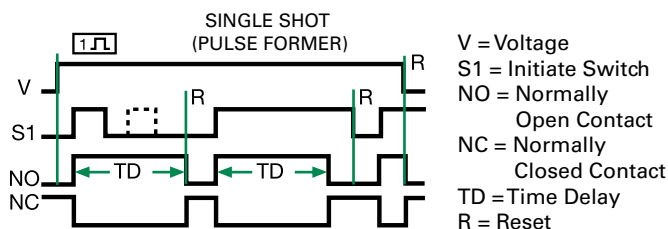
**P1023-20 DIN Rail Adapter**  
Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

### Selection Guide

| R <sub>T</sub> Selection Chart |     |     |     |                |
|--------------------------------|-----|-----|-----|----------------|
| 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 RT add at least 20% for tolerance of unit and the RT.

### Function Diagram



### Specifications

|                                                    |                                                                               |
|----------------------------------------------------|-------------------------------------------------------------------------------|
| <b>Time Delay Range</b>                            | 0.05s - 600s in 4 adjustable ranges or fixed                                  |
| <b>Repeat Accuracy</b>                             | ±2% or 20ms, whichever is greater                                             |
| <b>Tolerance (Factory Calibration)</b>             | ≤ ±5%                                                                         |
| <b>Reset Time</b>                                  | ≤ 150ms                                                                       |
| <b>Initiate Time</b>                               | ≤ 20ms                                                                        |
| <b>Time Delay vs Temp. &amp; Voltage</b>           | ≤ ±10%                                                                        |
| <b>Input Voltage</b>                               | 24, 120, or 230VAC                                                            |
| <b>Tolerance</b>                                   | ±20%                                                                          |
| <b>AC Line Frequency</b>                           | 50/60 Hz                                                                      |
| <b>Power Consumption</b>                           | ≤ 2VA                                                                         |
| <b>Output Type</b>                                 | Solid state                                                                   |
| <b>Form</b>                                        | NO, closed during timing                                                      |
| <b>Maximum Load Current</b>                        | 1A steady state, 10A inrush at 60°C                                           |
| <b>Off State Leakage Current</b>                   | ≅ 5mA @ 230VAC                                                                |
| <b>Voltage Drop</b>                                | ≅ 2.5V @ 1A                                                                   |
| <b>Protection Circuitry</b>                        | Encapsulated                                                                  |
| <b>Dielectric Breakdown</b>                        | ≥ 2000V RMS terminals to mounting surface                                     |
| <b>Insulation Resistance</b>                       | ≥ 100 MΩ                                                                      |
| <b>Mechanical Mounting</b>                         | Surface mount with one #10 (M5 x 0.8) screw                                   |
| <b>Dimensions</b>                                  | <b>H</b> 50.8 mm (2.0"); <b>W</b> 50.8 mm (2.0");<br><b>D</b> 30.7 mm (1.21") |
| <b>Termination</b>                                 | 0.25 in. (6.35 mm) male quick connect terminals                               |
| <b>Environmental Operating/Storage Temperature</b> | - 40° to 75°C / - 40° to 85°C                                                 |
| <b>Humidity</b>                                    | 95% relative, non-condensing                                                  |
| <b>Weight</b>                                      | ≅ 2.4 oz (68 g)                                                               |



**Стандарт  
Электрон  
Связь**

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