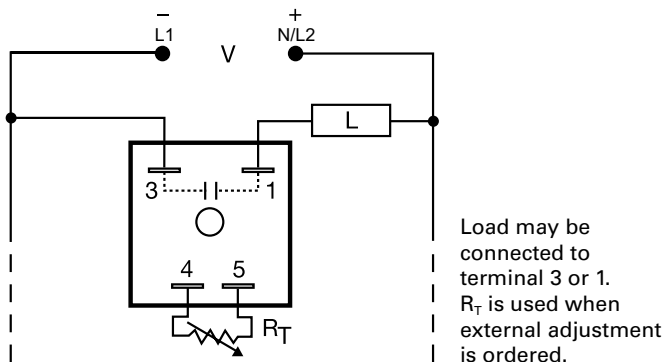


TS1 SERIES

Delay-on-Make Timer



Wiring Diagram



Description

The TS1 Series offers proven reliability and performance with years of use in OEM equipment and commercial applications. This encapsulated general use timing module is capable of controlling load currents ranging from 5mA to 1A. May be connected in series with contactors, relays, valves, solenoids, small motors, and lamps.

Operation (Delay-on-Make)

Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output energizes and remains energized until input voltage is removed.

Reset: Removing input voltage resets the time delay and output.

Features & Benefits

| FEATURES | BENEFITS |
|--|--|
| Analog circuitry | Repeat Accuracy +/- 2% |
| Fixed or external adjustable time delay | External time delay settings are adjustable from 0.05s - 10m in 8 ranges for added flexibility |
| 5mA to 1A load current range | Minimum holding current of 5mA ensures proper operation with the lightest of loads |
| Totally solid state and encapsulated | No moving parts to arc and wear out over time and encapsulated to protect against shock, vibration, and humidity |
| Two terminal series load connections | Allows connection in series with contactors, relays, valves, solenoids, small motors and lamps. Provides quick and easy installation for new or existing systems |

Ordering Information

| MODEL | INPUT VOLTAGE | ADJUSTMENT | TIME DELAY | MODEL | INPUT VOLTAGE | ADJUSTMENT | TIME DELAY |
|-----------|---------------|------------|------------|---------|---------------|------------|------------|
| TS1211.5 | 24VAC | Fixed | 1.5s | TS1412 | 120VAC | Fixed | 2s |
| TS121150 | 24VAC | Fixed | 150s | TS14120 | 120VAC | Fixed | 20s |
| TS12130 | 24VAC | Fixed | 30s | TS14130 | 120VAC | Fixed | 30s |
| TS1214 | 24VAC | Fixed | 4s | TS1415 | 120VAC | Fixed | 5s |
| TS12190 | 24VAC | Fixed | 90s | TS1416 | 120VAC | Fixed | 6s |
| TS1221 | 24VAC | External | 0.05 - 3s | TS1421 | 120VAC | External | 0.05 - 3s |
| TS1222 | 24VAC | External | 0.5 - 60s | TS1422 | 120VAC | External | 0.5 - 60s |
| TS1224 | 24VAC | External | 5 - 600S | TS1423 | 120VAC | External | 2 - 180s |
| TS13115 | 24VDC | Fixed | 15s | TS1424 | 120VAC | External | 5 - 600s |
| TS1321 | 24VDC | External | 0.05 - 3s | TS1612 | 230VAC | Fixed | 2s |
| TS1410.25 | 120VAC | Fixed | 0.25s | TS1615 | 230VAC | Fixed | 5s |
| TS14110 | 120VAC | Fixed | 10s | TS1621 | 230VAC | External | 0.05 - 3s |
| TS141180 | 120VAC | Fixed | 180s | TS1622 | 230VAC | External | 0.5 - 60s |

If you don't find the part you need, call us for a custom product 800-843-8848

TS1 SERIES

Accessories



P1004-XX, P1004-XX-X Versa-Pot
Panel mountable, industrial potentiometer recommended for remote time delay adjustment.



P1023-6 Mounting bracket
The 90° orientation of mounting slots makes installation/removal of modules quick and easy.



P0700-7 Versa-Knob
Designed for 0.25 in. (6.35 mm) shaft of Versa-Pot. Semi-gloss industrial black finish.



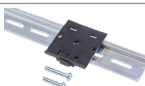
P1015-64 (AWG 14/16) Female Quick Connect
These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.



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.

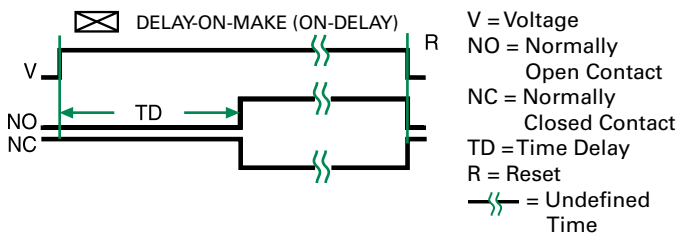


VTP(X)(X) Plug-on Adjustment Module
Mounts on modules with in-line adjustment terminals. Rated at 0.25W at 55°C. Available in resistance values from 5KΩ to 5MΩ.

Selection Table for VTP Plug-on Adjustment Accessory

| All Other Voltages | | 12VDC | |
|--------------------|---------|-------------|---------|
| Time Delay | VTP P/N | Time Delay | VTP P/N |
| 1 - 0.05-3s | VTP4B | 1 - 0.05-1s | VTP2A |
| 2 - 0.5-60s | VTP4F | 2 - 0.5-20s | VTP2E |
| 3 - 2-180s | VTP4J | 3 - 2-60s | VTP2F |
| 4 - 5-600s | VTP5N | 4 - 5-120s | VTP2H |

Function Diagram



Specifications

Time Delay

Type Analog circuitry

Range 0.05 - 120s in 4 adjustable ranges or fixed (1 MΩ max. RT)

Other Voltages 0.05 - 600s in 4 adjustable ranges or fixed

Repeat Accuracy ±2% or 20ms, whichever is greater

Tolerance (Factory Calibration) ≤ ±10%

Recycle Time After timing – ≤ 16ms

During timing – 0.1% of time delay or 75ms, whichever is greater

Time Delay vs. Temperature & Voltage

≤ ±10%

Input Voltage 12, 24 or 120VDC; 24, 120, or 230VAC

Tolerance ±20%

AC Line Frequency 50/60 Hz

Output

Type Solid state

Form NO, open during timing

Maximum Load Current 1A steady state, 10A inrush at 60°C

Minimum Holding Current 5mA

Voltage Drop ≈ 2.5V @ 1A

Protection

Circuitry Encapsulated

Dielectric Breakdown ≥ 2000V RMS terminals to mounting surface

Insulation Resistance ≥ 100 MΩ

Polarity DC units are reverse polarity protected

Mechanical

Mounting Surface mount with one #10 (M5 x 0.8) screw

Dimensions **H** 50.8 mm (2"); **W** 50.8 mm (2");

D 30.7 mm (1.21")

0.25 in. (6.35 mm) male quick connect terminals

Termination

Environmental

Operating/Storage

Temperature -40° to 80°C / -40° to 85°C

Humidity 95% relative, non-condensing

Weight ≈ 2.4 oz (68 g)

Selection Chart

| RT Selection Chart | | | | | |
|-----------------------|-----|-----|-----|--|--------------|
| Desired Time Delay* | | | | | RT Megohm |
| Seconds | | | | | |
| 1 | 2 | 3 | 4 | | |
| 0.05 | 0.5 | 2 | 5 | | 0.0 |
| 0.5 | 10 | 30 | 60 | | 0.5 |
| 1.0 | 20 | 60 | 120 | | 1.0 |
| ▼ 24VDC or AC ONLY† ▼ | | | | | |
| 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 RT add at least 20% for tolerance of unit and the RT.
† 1 Megohm max for 12 VDC Units

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[TS1410.25](#) [TS1421](#) [TS1222](#)