

# TS2 / TS6 SERIES



**TS2**



**TS6**

## Description

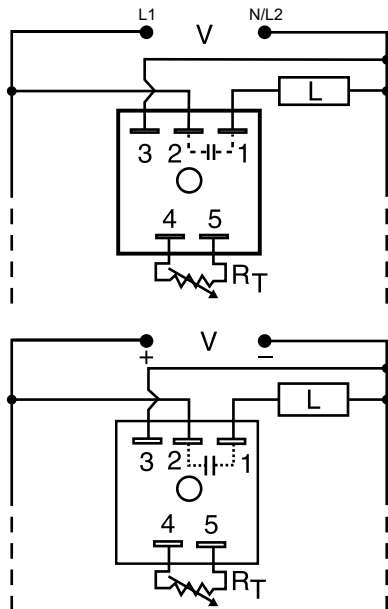
The TS2 Series is designed for 24, 120 or 230VAC and the TS6 Series is designed for 12 or 24VDC. These series are capable of controlling load currents of up to 1A steady state, 10A inrush. Encapsulated circuitry and the reliability of a  $\pm 2\%$  repeat accuracy make the TS2 and TS6 ideal for cost sensitive applications.

### Operation (Interval)

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

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

## Wiring Diagram



V = Voltage  
L = Load

$R_T$  is used when external adjustment is ordered.

Note: TS6 is not reverse polarity protected.

## Features & Benefits

FEATURES	BENEFITS
<b>Analog circuitry</b>	Repeat accuracy + / - 2%, Factory calibration + / - 10%
<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>1A steady, 10A inrush solid-state output</b>	Provides 100 million operations in typical conditions
<b>Rated for operation up to 75°C</b>	Can be used in the harshest environments

## Accessories

**P1004-XX** (fig. A), **P1004-XX-X** (fig. B) **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.

## Ordering Information

MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY	SWITCHING MODE	MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY	SWITCHING MODE
TS22120	24VAC	Fixed	20s	n/a	TS2424	120VAC	External	5 - 600s	n/a
TS2223	24VAC	External	2 - 180s	n/a	TS6116P	12VDC	Fixed	6s	Positive
TS2412	120VAC	Fixed	2s	n/a	TS6122P	12VDC	External	0.5 - 20s	Positive
TS24130	120VAC	Fixed	30s	n/a	TS6123P	12VDC	External	2 - 60s	Positive
TS2421	120VAC	External	0.05 - 3s	n/a	TS6321P	24VDC	External	0.05 - 3s	Positive
TS2422	120VAC	External	0.5 - 60s	n/a	TS6323P	24VDC	External	2 - 180s	Positive
TS2423	120VAC	External	2 - 180s	n/a					

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

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## Accessories



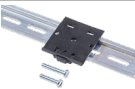
**P1015-64 (AWG 14/16) Female Quick Connect**  
These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.



**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.

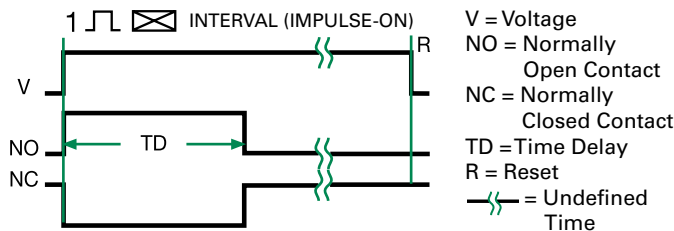
**Selection Table for VTP Plug-on Adjustment Accessory**

TS6 12VDC			
Time Delay	VTP P/N	Versa-Pot (potentiometer)	
		Fig. A P/N	Fig. B P/N
1 - 0.05-1s	VTP2A	P1004-16	P1004-16-X
2 - 0.5-20s	VTP2E	P1004-16	P1004-16-X
3 - 2-60s	VTP2F	P1004-16	P1004-16-X
4 - 5-120s	VTP2H	P1004-16	P1004-16-X

TS2 & TS6 All Other Voltages			
Time Delay	VTP P/N	Versa-Pot (potentiometer)	
		Fig. A P/N	Fig. B P/N
1 - 0.05-3s	VTP4B	P1004-12	P1004-12-X
2 - 0.5-60s	VTP4F	P1004-12	P1004-12-X
3 - 2-180s	VTP4J	P1004-12	P1004-12-X
4 - 5-600s	VTP5N	P1004-13	P1004-13-X

## Function Diagram



## Selection Guide

RT Selection Chart				
Desired Time Delay*				RT
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
▼ 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

## Specifications

### Time Delay

#### Type

Analog circuitry

#### Range

#### 12VDC

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

#### Other Voltages

0.05 - 600s in 4 adjustable ranges or fixed ±2% or 20ms, whichever is greater

#### Repeat Accuracy

#### Tolerance

≤ ±10%

#### (Factory Calibration)

#### Time Delay vs Temp. & Voltage

≤ ±10%

#### Reset Time

≤ 150ms

#### Input

#### Voltage

12 or 24VDC; 24 or 20VAC

#### Tolerance

±15%

#### DC Ripple

10%

#### Power Consumption

DC ≤ 1W; AC ≤ 2VA

#### Output

#### Type

Solid state

#### Form

NO, closed during timing

#### Maximum Load Current

1A steady state, 10A inrush at 60°C

#### Voltage Drop

DC ≈ 1.0V @ 1A; AC ≈ 2.5V @ 1A

#### Protection

#### Circuitry

Encapsulated

#### Polarity

TS6 is not reverse polarity protected

#### Dielectric Breakdown

≥ 2000V RMS terminals to mounting surface

#### Insulation Resistance

≥ 100 MΩ

#### 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 75°C / -40° to 85°C

#### Humidity

95% relative, non-condensing

#### Weight

≈ 2.4 oz (68 g)