

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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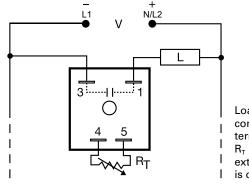
TS1 SERIES

Delay-on-Make Timer





Wiring Diagram



Load may be connected to terminal 3 or 1. $R_{\rm T}$ is used when external adjustment is ordered.

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 guick 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 $5K\Omega$ to $5M\Omega$.

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	

Specifications

Time Delay

Type

Range 12VDC

0.05 - 120s in 4 adjustable ranges or fixed

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

Tolerance

(Factory Calibration)

Recycle Time

±20%

50/60 Hz

Solid state

NO, open during timing

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

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

1A steady state, 10A inrush at 60°C

whichever is greater

Time Delay vs. Temperature & Voltage

Voltage

Maximum Load Current

Minimum Holding Current

Voltage Drop

Protection

Insulation Resistance

Polarity

Mounting

Dimensions

Termination

Environmental

Operating/Storage

Temperature

Humidity

Weight

Analog circuitry

 $(1 M\Omega max. RT)$

0.05 - 600s in 4 adjustable ranges or fixed

 $\leq \pm 10\%$

After timing $- \le 16$ ms

$\leq \pm 10\%$

Input

Tolerance

AC Line Frequency

Output

Type

Form

5mA ≈ 2.5V @ 1A

Circuitry

Dielectric Breakdown

Mechanical

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

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

D 30.7 mm (1.21")

Encapsulated

0.25 in. (6.35 mm) male quick connect terminals

 \geq 2000V RMS terminals to mounting surface

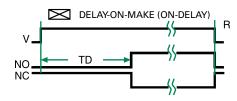
DC units are reverse polarity protected

-40° to 80°C / -40° to 85°C 95% relative, non-condensing

 $\approx 2.4 \text{ oz } (68 \text{ g})$

Selection Chart

Function Diagram



V = Voltage

NO = Normally Open Contact

NC = Normally

Closed Contact TD = Time Delay

R = Reset -{- = Undefined Time

R _T Selection Chart						
Des	R-					
	11					
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 R_T add at least 20% for tolerance of unit and the R_T.
† 1 Megohm max for 12 VDC Units