

**1-6** TIME DELAY RELAYS

# Delay On Make T1 Series

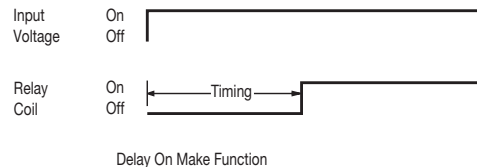
## FEATURES

- 100% functionally tested
- Digital timing circuit
- ±1% repeatability
- Time calibrated dial
- Superior transient protection
- Fiberglass reinforced circuit board
- Internal components supported by heavy-duty chassis
- Reinforced base locator pin
- Flame-retardant polycarbonate housing
- File #E59090

**Operating Logic:** Upon application of voltage to the input terminals, the time delay cycle starts. At the end of the preset time delay, the relay coil is energized and the contacts transfer. Reset is accomplished by the removal of input voltage.

*Note: 1) Remote potentiometer leads should be shielded when running close to other wires; 2) The minimum time setting on external resistor-adjustable time delay relays is obtained by shorting together the external resistor terminals of the relay; 3) The maximum time setting within tolerance limits is obtained by using a 1 megohm resistor; 4) Timing values between the minimum and maximum limits are linear with resistance within 10%; 5) Recommend 1/4 W minimum resistor be used.*

## LOGIC FUNCTION DIAGRAM



## SPECIFICATIONS

### TIME DELAY

**Adjustment:** Knob or external resistor, factory fixed on special order (min. order required)

**Range:** 50 ms to 1 hour in 8 ranges

**Repeatability:** ±1% at constant temperature

**Accuracy:** Maximum time -0%, +10%; Minimum time +0%, -50%

**Reset Time:** 50 ms max. (25 ms typical)

### INPUT

**Operating Voltage:** 24, 120, 240 VAC; 12, 24 VDC ±10% (DC models have reverse polarity protection. Unfiltered input voltage to them must be full-wave rectified)

**Power Consumption:** 3 VA max.

**Frequency:** 50/60 Hz

### OUTPUT

**Type:** Relay contacts, DPDT (2 form C)

**Rating:** 10 A max. resistive at 240 VAC; 100 mA at 5 VDC min. load current

### Life:

Mechanical: 10,000,000 operations

Full Load: 500,000 operations

### PROTECTION

**Transient Voltage:** 12, 24 V timers are protected by an 8.8 joule metal oxide varistor; 120, 240 V timers are protected by a 30 joule metal oxide varistor

**Dielectric Breakdown:** 1500 VAC, RMS min. at 60 Hz between input and outputs and between outputs

### MECHANICAL

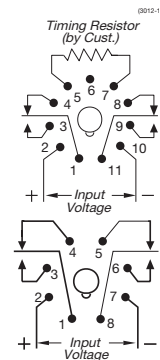
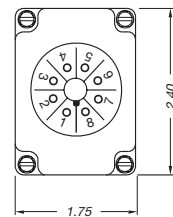
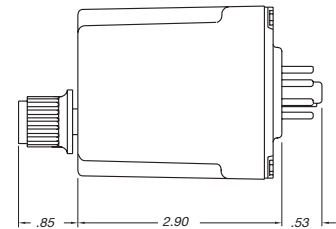
**Termination:** 8-pin or 11-pin plug

**Mounting:** Socket mount, 8-pin part number MSO-0008P-012; Socket mount, 11-pin part number MSO-0011P-012

### ENVIRONMENTAL

**Storage Temperature:** -23°C to 70°C

**Operating Temperature:** -23°C to 55°C



PIN CONFIGURATION  
Polarity Shown is  
for D.C. Models

## ORDERING INFORMATION

TIME RANGE	12 VDC KNOB ADJST. 8-PIN BASE	24 VDC KNOB ADJST. 8-PIN BASE	24 VAC KNOB ADJST. 8-PIN BASE	120 VAC KNOB ADJST. 8-PIN BASE	120 VAC REMOTE POT 11-PIN BASE	240 VAC KNOB ADJST. 8-PIN BASE
.05 to 1 sec.	—	—	—	T1K-00001-461	—	—
.1 to 10 sec.	T1K-00010-466	T1K-00010-462	T1K-00010-467	T1K-00010-461	T1F-00010-461*	T1K-00010-465
.3 to 30 sec.	T1K-00030-466	—	—	T1K-00030-461	—	—
.6 to 60 sec.	T1K-00060-466	T1K-00060-462	T1K-00060-467	T1K-00060-461	T1F-00060-461*	T1K-00060-465
1.8 to 180 sec.	—	—	—	T1K-00180-461	—	—
3 to 300 sec.	—	—	—	T1K-00300-461	—	—
6 to 600 sec.	—	—	—	T1K-00600-461	—	—
36 to 3600 sec.	—	—	—	T1K-03600-461	—	—

\* Optional Potentiometer: Part Number ASY-0001M-450

### External Resistance/Time Delay Relationship

1 megohm external resistance is required to obtain the maximum time for all ranges. To determine the actual resistance needed to obtain the required time delay, use the following formula:

$$R_t = \frac{\text{Required} - \text{Tminium}}{\text{Tmaximum} - \text{Tminium}} \times 1,000,000 \text{ ohms}$$

*Note: Due to component tolerances, the actual time obtained will normally be within 5% of desired time.*

Consult factory for any special requirements not listed in catalog (minimum order requirement may apply).