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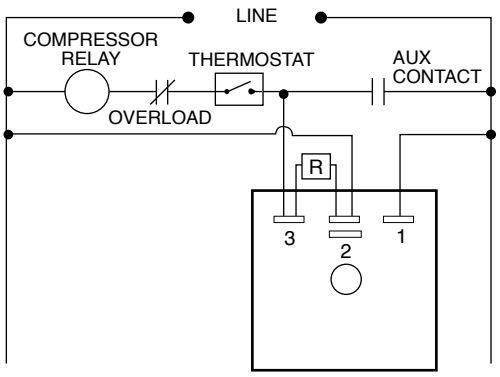
# TSA141300

## Anti-Short Cycle, Solid State Timer


## Wiring Diagram




## Description

The TSA141300 utilizes unique circuitry to provide random start and lockout delay in one small, rugged, inexpensive package. When connected as shown, the TSA141300 in a multiple unit situation, prevents all units from starting at one time with its random start feature. The TSA141300 also prevents the compressor from recycling rapidly which could result in a lock rotor condition. This lockout delay is initiated at the end of each operation of the compressor. A momentary loss of power would also initiate the lockout delay.

### Operation

**Random Start:** With the thermostat closed, when line voltage is applied to system, a time delay is initiated. At the end of this delay, the compressor relay will be energized. (Random Start delay is equal to lockout delay.)

**Anti-Short Cycle:** At the end of each cycle, when the thermostat opens, a lockout delay is initiated which prevents re-energization of the compressor relay during this period. If the thermostat is closed after the time delay is completed, the compressor relay will energize Immediately.

**Loss of Power:** If there is a momentary loss of power, the lockout will again be initiated preventing the compressor relay from energizing for the duration of the delay.

## Features & Benefits

- Lockout Delay—prevents rapid recycling of compressor in air conditioning, refrigeration, and heat pump equipment
- Random Start Delay—provides staggered start up of multiple units
- Fast response time
- All Solid State with Encapsulated Circuitry

## Specifications

### Time Delay

| | |
|---|---|
| **Type** | Factory fixed 5 minutes |
| **Repeat Accuracy** | ± 5% under fixed conditions |
| **Tolerance** | Factory calibration: ± 15% |
| **Time Delay vs. Temperature** | ± 10% max. |

### Input

| | |
|---|---|
| **Voltage** | 120 volts AC |
| **Tolerance** | ± 20% of nominal |
| **AC Line Frequency** | 50/60 Hz |

### Output

| | |
|---|---|
| **Type** | Solid State |
| **Maximum Load Current** | 1 ampere steady state, 10 amperes inrush at 60°C |
| **Voltage Drop** | 2.5 volts typical at 1 ampere |

### Protection

| | |
|---|---|
| **Transient** | Protected |
| **Dielectric Breakdown** | Greater than 1500 volts RMS |
| **Insulation Resistance** | 100 megohms min. |

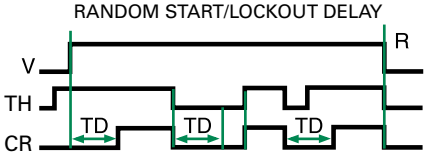
### Mechanical

| | |
|---|---|
| **Mounting** | Surface mount with one #8 or #10 screw |
| **Package** | Molded housing with encapsulated circuitry |
| **Termination** | 0.25 in. (6.35 mm) male quick connect terminals |
| **Dimensions** | **H** 50.80 mm (2.0"); **W** 50.80 mm (2.0"); **D** 30.70 mm (1.21") |

### Environmental

| | |
|---|---|
| **Operating/Storage Temperature** | -40°C to +80°C/-40°C to +85°C |
| **Humidity** | 95% relative, non-condensing |

## Function Diagram




V = Input Voltage
TH = Thermostat
CR = Compressor Relay
TD = Time Delay
R = Reset