TSA141300

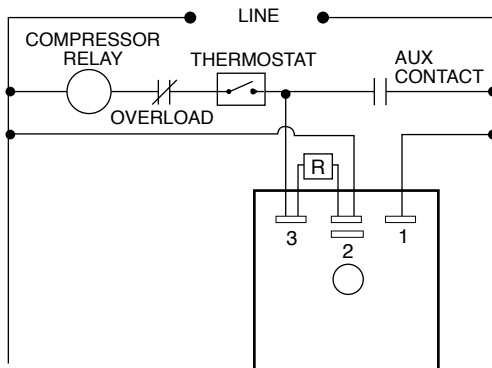### Anti-Short Cycle, Solid State Timer

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

RANDOM START/LOCKOUT DELAY

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