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# TL SERIES

## Lockout




## Description

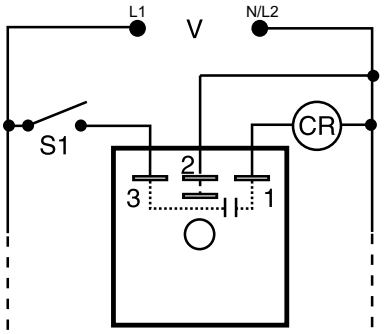
The TL Series provides protection against short cycling of a compressor. At the end of each operation, or whenever power is lost, a lockout delay is initiated. This lockout delay prevents restarting of the compressor until the head pressure has equalized. Compressor relay chatter due to thermostat bounce is eliminated by use of optional one second delay-on-make. The TL Series should not be used with cooling anticipator resistors or solid-state switches. (See the TA Series).

### Operation (Lockout)

**Lockout:** On initial closure of S1, the compressor relay energizes immediately (or after an optional 1s delay). When the S1 opens or input voltage is interrupted, the output opens and remains open for the lockout time delay. During this lockout time delay period, the compressor relay cannot be re-energized.

**Reset:** The lockout time delay cannot be reset. After the time delay is completed, the unit automatically resets.

## Wiring Diagram




V = Voltage
S1 = Initiate Switch
CR = Compressor or Control Relay

## Features & Benefits

| FEATURES | BENEFITS |
|---|---|
| **Lockout delay** | Prevents rapid cycling of compressor and eliminates nuisance service calls due to blown fuse or tripped breaker by locked rotor during short cycling. |
| **One second Delay-on-Make (models ending in T)** | Eliminates contactor chatter due to thermostat bounce |
| **Totally solid state and encapsulated** | No moving parts to arc and wear out over time and encapsulated to protect against shock, vibration, and humidity |
| **1A steady, 10A inrush, solid state output** | Provides 100 million operations in typical conditions |

## Ordering Information

| MODEL | INPUT VOLTAGE | LOCKOUT TIME | DELAY-ON-MAKE |
|---|---|---|---|
| TL120A5T | 120VAC | 5m | 1s |
| TL230A5 | 230VAC | 5m | No delay |

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

## Accessories



**P1023-6 Mounting bracket**
The 90° orientation of mounting slots makes installation/removal of modules quick and easy.



**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.

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# TL SERIES

## Specifications

### Input

| | |
|---|---|
| **Voltage** | 24, 120, or 230VAC |
| **AC Line Frequency** | 50/60 Hz |
| **Tolerance** | ±20% |

### Output

| | |
|---|---|
| **Minimum Load Current** | ≤ 40mA |
| **Maximum Load Current** | 1A @ 24VAC; 0.5A @ 120 & 230VAC at 60°C |
| **Inrush Current** | 10A at 60°C |
| **Voltage Drop** | 24VAC - 2.5V @ 1A<br>120 & 230VAC - 4.2V @ 0.5A |

### Time Delay

| | |
|---|---|
| **Initiate Time** | ≅ 8ms |
| **Lockout Time*** | Fixed 2, 3, or 5m |
| **Tolerance** | -15% - 35% |
| **Option** | 1s delay-on-make eliminates contactor chatter due to thermostat bounce |

### Protection

| | |
|---|---|
| **Circuitry** | Encapsulated |
| **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");<br>**D** 30.7 mm (1.21") |
| **Termination** | 0.25 in. (6.35 mm) male quick connect terminals |

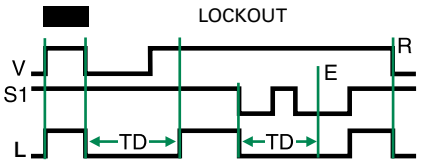
### Environmental

| | |
|---|---|
| **Operating/Storage Temperature** | -40° to 70°C / -40° to 85°C |
| **Humidity** | 95% relative, non-condensing |
| **Weight** | ≅ 2.4 oz (68 g) |

*Power must be applied for at least 15 s to achieve a full lockout delay. Less than 15 s will result in proportionally shorter delay periods.

**NOTE:** Cooling anticipator resistor or leakage may cause erratic operation. See TA Series for use with 24VAC systems that include anticipator resistors or use solid-state switches.

## Function Diagram




V = Voltage
S1 = Initiate Switch
L = Load (CR)
E = Ready
TD = Time Delay
R = Reset

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