

# 50 Amp Latching PCB Relay

PC10L-50



## FEATURES

- Energy Saving Latching Operation
- 50 Amp Switching Capacity
- 5,000 Watt Lamp Load @ 240 VAC
- 5 HP @ 277 VAC Motor Load
- Max Inrush Current 200 Amp for 2 ms
- Single or Dual Coil
- Manual Switch On Top
- 39.0 x 25.0 x 15.0 mm Package Dimensions
- 5.0 mm Shorter than Completion's version
- RoHS Compliant

**CULUS E93379**

| Load Type                       | Voltage | 1 Form A (SPST-NO) |
|---------------------------------|---------|--------------------|
| Resistive 6,000 Cycles          | 277 VAC | 50 A               |
| Incandescent Lamp 3,000 Cycles  | 240 VAC | 5,000 W            |
| Incandescent Lamp 3,000 Cycles  | 277 VAC | 16 A               |
| Electronic Ballast 6,000 Cycles | 280 VAC | 16 A               |
| Motor Load 3,000                | 277 VAC | 5 HP               |

## UL APPROVALS

|                 |         |      |
|-----------------|---------|------|
| General Purpose | 277 VAC | 50 A |
|-----------------|---------|------|

## CHARACTERISTICS

|                       |                                                                                        |
|-----------------------|----------------------------------------------------------------------------------------|
| Operate Time          | ≤ 15 ms                                                                                |
| Release Time          | ≤ 15 ms                                                                                |
| Insulation Resistance | 1,000 MΩ min at 500 VDC                                                                |
| Dielectric Strength   | 50 Hz 4,000 V 1 min. Between Coil and Contact<br>50 Hz 1,500 V 1 min. Between Contacts |
| Shock Resistance      | 98 m/s <sup>2</sup> 11 ms Functional<br>980 m/s <sup>2</sup> 11 ms Survival            |
| Power Consumption     | Single Coil: 1.5 W; Double Coil: 2 X 3.0 W                                             |

## CONTACT DATA

| CONTACT DATA                      |            |                                        |
|-----------------------------------|------------|----------------------------------------|
| Maximum Switching Power           |            | 12,500 VA                              |
| Maximum Switching Voltage         |            | 440 VAC                                |
| Maximum Switching Current         |            | 50 A                                   |
| Minimum Operating Contact Current |            | 10 mA @ 6 VDC & 25°C                   |
|                                   |            | 100 mA @ 6 VDC<br>Over Operating Temp. |
| Material                          |            | AgSnO <sub>2</sub>                     |
| Initial Contact Resistance        |            | ≤ 20mΩ Initial                         |
| Service Life                      | Mechanical | 5 X 10 <sup>6</sup> Operations         |
|                                   | Electrical | 1 X 10 <sup>5</sup> Operations         |

|                       |                                    |
|-----------------------|------------------------------------|
| Creep                 | 8 mm                               |
| Terminal Strength     | 10 N                               |
| Vibration Resistance  | 10 - 55 Hz Double Amplitude 1.5 mm |
| Operating Temperature | - 40 to 70°C                       |
| Storage Temperature   | - 40 to 125°C                      |
| Solderability         | 235 °C ± 2°C 3 sec ± 0.5 sec       |
| Relative Humidity     | 85% at 40°C                        |
| Weight                | 25 grams                           |

## ORDERING INFORMATION

|                 |                                                  |     |    |       |     |     |     |
|-----------------|--------------------------------------------------|-----|----|-------|-----|-----|-----|
| Example:        | PC10L-50                                         | -1A | -3 | - Nil | - D | - R | - X |
| Model:          | PC10L-50                                         |     |    |       |     |     |     |
| Contact Form:   | 1A                                               |     |    |       |     |     |     |
| Coil Voltage:   | 3, 9, 12, 24, 48                                 |     |    |       |     |     |     |
| Enclosure:      | Nil: Dust Cover                                  |     |    |       |     |     |     |
| Coil:           | Nil: Single Coil 1.5 W, D: Double Coil 2 X 3.0 W |     |    |       |     |     |     |
| Polarity:       | Nil: Standard, R: Reverse Polarity               |     |    |       |     |     |     |
| RoHS Compliant: | -X                                               |     |    |       |     |     |     |

Box Quantity: 1000 ; Inner Box 500

## COIL DATA

| Coil Voltage |         | Coil Power              |                         | Must Operate<br>Voltage Max<br>(VDC) |
|--------------|---------|-------------------------|-------------------------|--------------------------------------|
|              |         | Resistance (Ohms ± 10%) |                         |                                      |
| Rated        | Maximum | Single Coil 1.5 Watts   | Dual Coil 2 x 3.0 Watts |                                      |
| 6            | 7       | 24                      | 12 + 12                 |                                      |
| 9            | 10.6    | 54                      | 27 + 27                 |                                      |
| 12           | 14.4    | 96                      | 48 + 48                 |                                      |
| 24           | 28.8    | 384                     | 192 + 192               |                                      |
| 48           | 56      | 1,536                   | 768 + 768               |                                      |

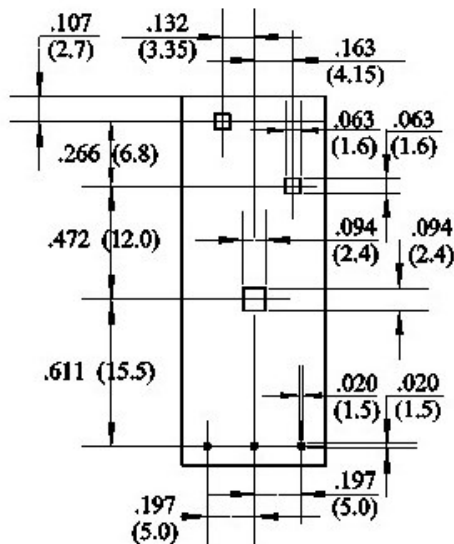
Pulse Magnitude  $\geq 50$  ms;

## NOTES:

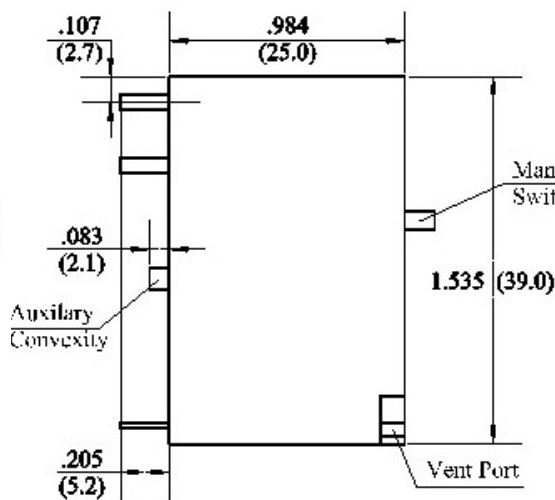
With the Dual Coil Version, the Latch and Reset Coils should not be pulsed at the same time for it is possible to set the relay into a magnetically neutral position. Coils should not be pulsed with less than the rated coil voltage and the pulse width should be a minimum of three times the specified operate time. If not, it is possible for the relay to settle in a magnetically neutral position.

Dimensions are in mm, Inches are listed for reference only.

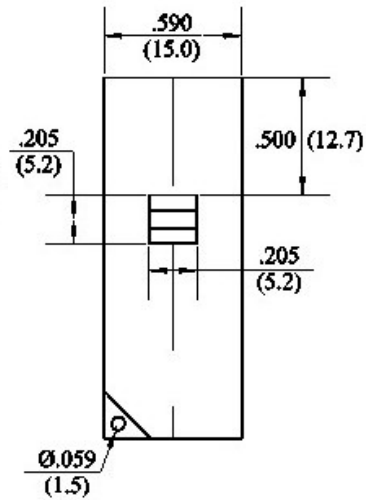
## DIMENSIONS (inches/mm)



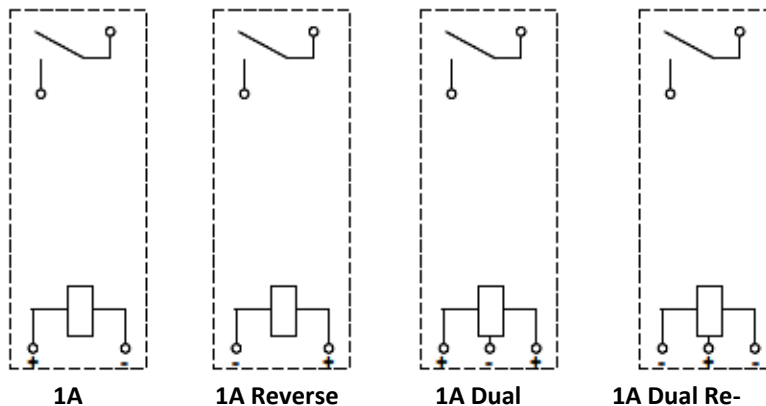
Bottom View of Relay



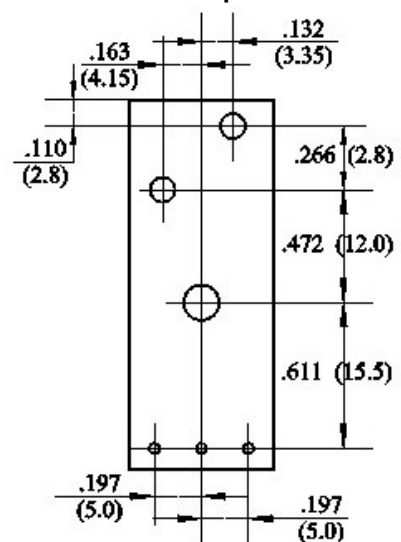
Side View of Relay



Top View of Relay



Wire Diagrams



PC Board Layout Top View



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