



# PCE series

## 10 Amp Miniature Power PC Board Relay

**Appliances, HVAC, Office Machines**

UL File No. E82292

CSA File No. LR48471

VDE File No. 6175

Users should thoroughly review the technical data before selecting a product part number. It is recommended that user also seek out the pertinent approvals files of the agencies/laboratories and review them to ensure the product meets the requirements for a given application.

### Features

- Small, low profile package, 10 Amp switching capacity.
- 1 Form A and 1 Form C contact arrangements.
- UL Class F (155°C) insulation system standard
- Immersion cleanable, sealed version available.
- Applications include appliance, HVAC, security system, garage opener control, emergency lighting.

### Contact Data @ 20°C

**Arrangements:** 1 Form A (SPST-NO) and 1 Form C (SPDT).

**Material:** Ag Alloy, AgSnO.

**Max. Switching Rate:** 300 ops./min. (no load).  
30 ops./min. (rated load).

**Expected Mechanical Life:** 10 million operations (no load).

**Expected Electrical Life:** 100,000 operations (rated load).

**Minimum Load:** 100mA @ 5VDC.

**Initial Contact Resistance:** 100 milliohms @ 1A, 6VDC.

### Contact Ratings

**Ratings:** 10A @ 250VAC resistive,  
10A @ 120VAC resistive,  
10A @ 28VDC resistive.

3A @ 250VAC inductive (cosφ= 0.4),  
3A @ 120VAC inductive (cosφ= 0.4),  
3A @ 28VDC inductive (L/R=7msec).

**Max. Switched Voltage:** AC: 250V.  
DC: 28V.

**Max. Switched Current:** 10A.

**Max. Switched Power:** 2,500VA, 280W.

### Initial Dielectric Strength

**Between Open Contacts:** 750VAC 50/60 Hz. (1 minute).

**Between Coil and Contacts:** 2,000VAC 50/60 Hz. (1 minute).

**Surge Voltage Between Coil and Contacts:** 4,000V (1.2 / 50μs).

### Initial Insulation Resistance

**Between Mutually Insulated Elements:** 1,000M ohms min. @ 500VDCM.

### Coil Data

**Voltage:** 6 to 48VDC.

**Nominal Power:** 360 mW

**Coil Temperature Rise:** 35°C max., at rated coil voltage.

**Max. Coil Power:** 130% of nominal.

**Duty Cycle:** Continuous.

### Coil Data @ 20°C

| PCE                      |                      |                              |                            |                            |
|--------------------------|----------------------|------------------------------|----------------------------|----------------------------|
| Rated Coil Voltage (VDC) | Nominal Current (mA) | Coil Resistance (ohms) ± 10% | Must Operate Voltage (VDC) | Must Release Voltage (VDC) |
| 6                        | 60                   | 100                          | 4.50                       | 0.30                       |
| 9                        | 40                   | 225                          | 6.75                       | 0.45                       |
| 12                       | 30                   | 400                          | 9.00                       | 0.60                       |
| 24                       | 15                   | 1,600                        | 18.00                      | 1.20                       |
| 48                       | 7                    | 6,400                        | 36.00                      | 2.40                       |

### Operate Data

**Must Operate Voltage:** 75% of nominal voltage or less.

**Must Release Voltage:** 5% of nominal voltage or more.

**Operate Time:** 10 ms max.

**Release Time:** 5 ms max.

### Environmental Data

**Temperature Range:**

**Operating:** -30°C to +70°C

**Vibration, Mechanical:** 10 to 55 Hz., 1.5mm double amplitude

**Operational:** 10 to 55 Hz., 1.5mm double amplitude.

**Shock, Mechanical:** 1,000m/s<sup>2</sup> (100G approximately).

**Operational:** 100m/s<sup>2</sup> (10G approximately).

**Operating Humidity:** 20 to 85% RH. (Non-condensing).

### Mechanical Data

**Termination:** Printed circuit terminals.

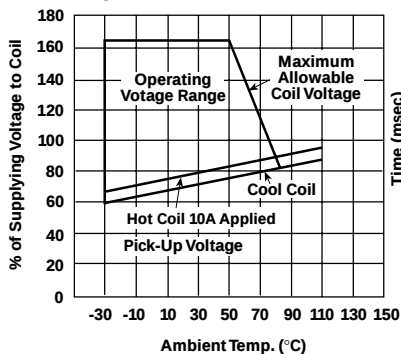
**Enclosure (94V-0 Flammability Ratings):**

**PCE:** Sealed plastic case with knock-off nib for ventilation

**Weight:** 0.32 oz (11g) approximately.

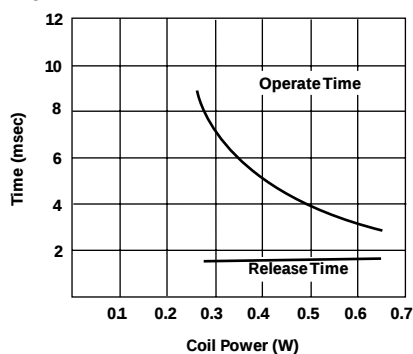
### Reference Data

#### Coil Temperature Rise

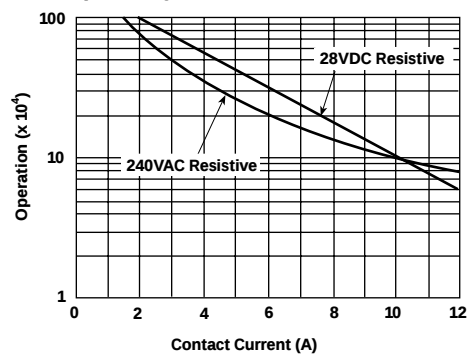


**Note:** This data is based on the max. allowable temperature for E type insulation coil (115°C).

#### Operate Time



#### Life Expectancy



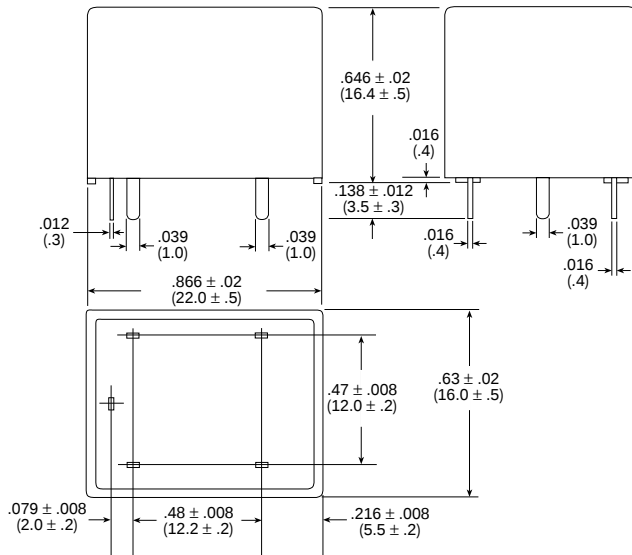
## Ordering Information

| Typical Part Number ►                                                                                                    |  | PCE | -1 | 24 | D | 1 | M |  | ,000 |
|--------------------------------------------------------------------------------------------------------------------------|--|-----|----|----|---|---|---|--|------|
| <b>1. Basic Series:</b><br>PCE = Miniature Power PC board relay.                                                         |  |     |    |    |   |   |   |  |      |
| <b>2. Termination:</b><br>1 = 1 pole                                                                                     |  |     |    |    |   |   |   |  |      |
| <b>3. Coil Voltage:</b><br>06 = 6VDC      12 = 12VDC      48 = 48VDC<br>09 = 9VDC      24 = 24VDC                        |  |     |    |    |   |   |   |  |      |
| <b>4. Coil Input:</b><br>D = Standard                                                                                    |  |     |    |    |   |   |   |  |      |
| <b>5. Contact Material:</b><br>1 = AgCdO      2 = AgSnO                                                                  |  |     |    |    |   |   |   |  |      |
| <b>6. Contact Arrangement:</b><br>Blank = 1 Form C, SPDT      M = 1 Form A, SPST-NO                                      |  |     |    |    |   |   |   |  |      |
| <b>7. Enclosure:</b><br>Blank = Flux-tight plastic case.      H = Sealed plastic case with knock-off nib for ventilation |  |     |    |    |   |   |   |  |      |
| <b>8. Suffix:</b><br>,000 = Standard model      Other Suffix = Custom model                                              |  |     |    |    |   |   |   |  |      |

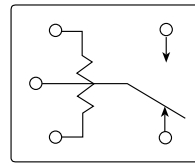
**Our authorized distributors are more likely to maintain the following items in stock for immediate delivery.**

PCE-112D1MH,000      PCE-112D1H,000  
PCE-124D1MH,000      PCE-124D1H,000

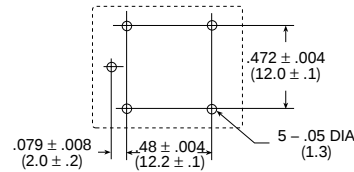
## Outline Dimensions



## Wiring Diagram (Bottom View)



## PC Board Layout (Bottom View)



## Socket

**27E1064** socket is rated 10A @ 300VAC. UL Recognized for US and Canada. Designed to fit same suggested board layout as relay.

