

# PCD/PCDF series

## 15 Amp Low Profile Power PC Board Relay

Appliances, HVAC, Office Machines

UL File No. E82292

CSA File No. LR48471

TUV File No. R9751117

### Features

- Low profile (10mm), 15 Amp switching capacity.
- 1 Form A contact arrangement.
- Sensitive 200mW coil (250mW on 48VDC coil).
- Immersion cleanable, sealed version available.
- Quick connect terminals available (PCDF).

### Contact Data @ 20°C

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

**Material:** 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:** 15A @ 125VAC resistive (PCDF only, load must be carried through QC terminals to achieve this rating),  
10A @ 250VAC resistive,  
10A @ 24VDC resistive.

5A @ 125VAC inductive (cos $\phi$ = 0.4, L/R=7msec),  
5A @ 24VDC inductive (cos $\phi$ = 0.4, L/R=7msec).

**Max. Switched Voltage:** AC: 250V.  
DC: 24V.

**Max. Switched Current:** 15A.  
**Max. Switched Power:** 1,800VA, 240W.

### Initial Dielectric Strength

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

**Between Coil and Contacts:** 2,500VAC 50/60 Hz. (1 minute).

**Surge Voltage Between Coil and Contacts:** 5,000V (1.2 / 50 $\mu$ s).

### Initial Insulation Resistance

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

### Coil Data

**Voltage:** 3 to 48VDC.

**Nominal Power:** 200 mW except 48VDC coil (250mW).

**Coil Temperature Rise:** 20°C max., at rated coil voltage.

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

**Duty Cycle:** Continuous.

### Coil Data @ 20°C

PCD & PCDF				
Rated Coil Voltage (VDC)	Nominal Current (mA)	Coil Resistance (ohms) $\pm$ 10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
3	67.0	45	2.25	0.30
5	40.0	125	3.75	0.50
6	33.3	180	4.50	0.60
9	22.5	400	6.75	0.90
12	17.0	720	9.00	1.20
24	8.6	2,880	18.00	2.40
48	5.2	9,200	36.00	4.80

### Operate Data

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

**Must Release Voltage:** 10% of nominal voltage or more.

**Operate Time:** 15 ms max.

**Release Time:** 8 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:** PCD: Printed circuit terminals.

PCDF: Printed circuit terminals and quick connect terminals.

**Enclosure (94V-0 Flammability Ratings):** Sealed plastic case.

**Weight:** PCD: 0.31 oz (9g) approximately.

PCDF: 0.35 oz (10g) approximately.

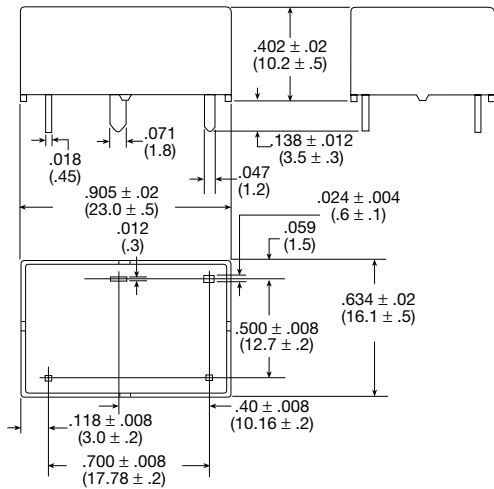
**Ordering Information**

<b>Typical Part Number ▶</b>	<b>PCD</b>	<b>-1</b>	<b>24</b>	<b>D</b>	<b>1</b>	<b>M</b>	<b>H</b>
<p><b>1. Basic Series:</b> PCD = PC Board Terminals. PCDF = Quick Connect Terminals.</p> <p><b>2. Termination:</b> 1 = 1 pole</p> <p><b>3. Coil Voltage:</b> 03 = 3VDC    06 = 6VDC    12 = 12VDC    48 = 48VDC 05 = 5VDC    09 = 9VDC    24 = 24VDC</p> <p><b>4. Coil Input:</b> D = Standard</p> <p><b>5. Contact Material:</b> 1 = AgSnO</p> <p><b>6. Contact Arrangement:</b> M = 1 Form A, SPST-NO</p> <p><b>7. Enclosure:</b> Blank = Vented (Flux-tight)* plastic cover    H = Sealed plastic case</p>							

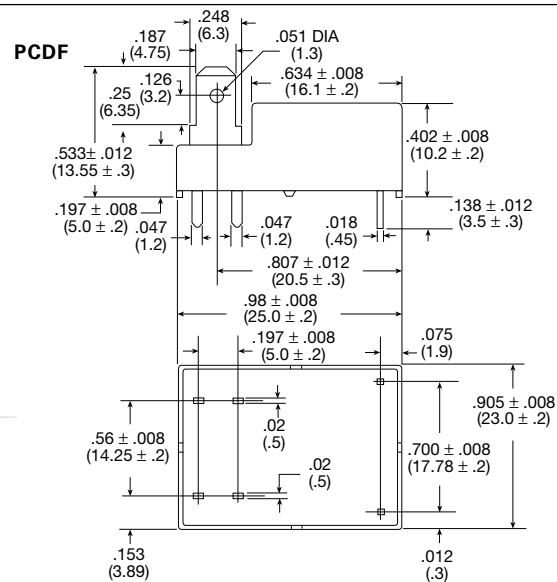
\* Not suitable for immersion cleaning processes.

**Outline Dimensions**

**PCD**

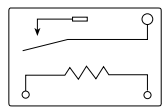


**PCDF**



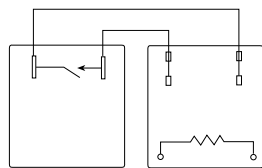
**Wiring Diagrams**

**PCD**



(Bottom View)

**PCDF**

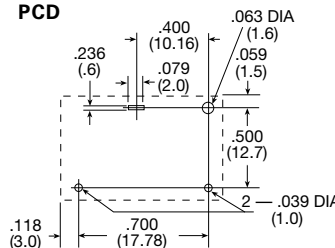


(Top View)

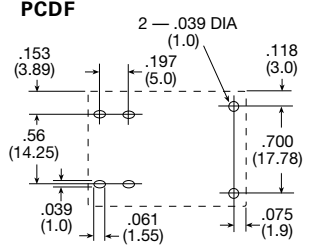
(Bottom View)

**PC Board Layouts (Bottom View)**

**PCD**

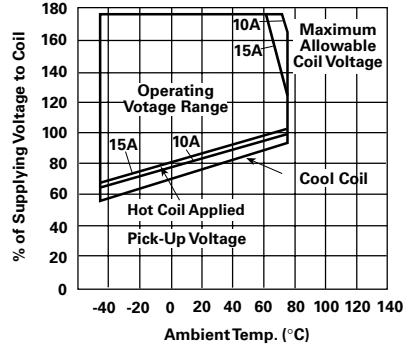


**PCDF**

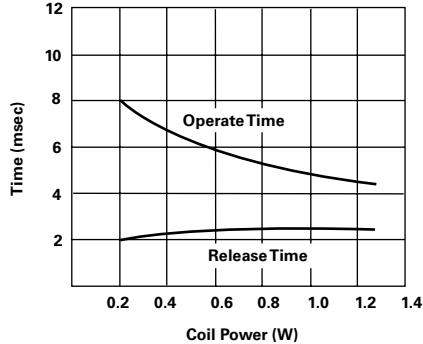


**Reference Data**

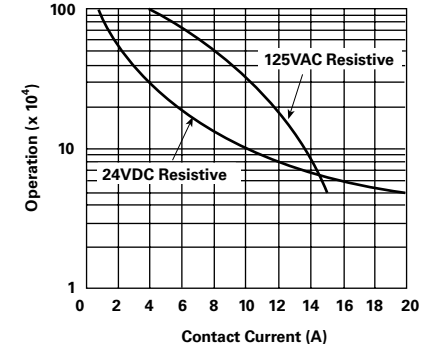
**Coil Temperature Rise**



**Operate Time**



**Life Expectancy**



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