



PCL series

3A, 5A, 10A, 15A General Purpose Miniature Relay

Factory Automation, Process Controls, Electrical Panels, etc.

UL File No. E58304

CSA File No. LR48471

Features

- Low cost, small size, 3A, 5A, 10A and 15A switching capacity.
- Meets UL and CSA requirements.
- 1 pole, 2 poles and 4 poles contact arrangements.
- AC and DC coils.
- Plug-in terminals or PCB terminals.

Contact Data @ 20°C

Arrangements: 1 Form A (SPST-NO), 1 Form C (SPDT),
2 Form A (DPST-NO), 2 Form C (DPDT),
4 Form A (4PST-NO), 4 Form C (4PDT).

Material: Ag, Ag Alloy.

Max. Switching Rate: 300ops./min. (Mechanical).
30ops./min. (Electrical).

Expected Mechanical Life: 100 million operations (no load).

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

Minimum Load: 100mA @ 5VDC.

Initial Contact Resistance: 50milliohms @ DC6V, 1A.

Contact Ratings

Ratings: PCL-4 3A @ AC250V/DC24V resistive.
PCL-2 5A @ AC250V/DC24V resistive.
PCLH-2 15A@AC240V resistive.
10A @ AC250V/DC24V resistive.
PCLH-1 15A @ AC250V/DC24V resistive.

Max. Switched Current: PCL-4 3A.
PCL-2 5A.
PCLH-2 15A.
PCLH-1 15A.

Max. Switched Power: PCL-4 660VA, 72W.
PCL-2 1,100VA, 120W.
PCLH-2 3,168VA, 240W.
PCLH-1 3,300VA, 360W.

Initial Dielectric Strength

Between Open Contacts: 1,000VAC 1minute.

Between Adjacent Contact Terminals: 1,500VAC 1minute.

Between Contacts and Coil: 2,000VAC 1minute.

Surge Voltage (Coil-Contact): 3,000V(1.2/50µs).

Initial Insulation Resistance

Between Open Contacts: 1,000Mohms @ 500VDC.

Between Adjacent Contact Terminals: 1,000Mohms @ 500VDC.

Between Contacts and Coil: 1,000Mohms @ 500VDC.

Coil Data

Voltage: AC 6 - 240V.
DC 6 - 110V.

Nominal Power: AC abt. 1.4VA/1.2VA (50Hz/60Hz).
DC abt. 0.9W.

Coil Temperature Rise: AC 60°C max.
DC 50°C max.

Max. Coil Power: 110% of nominal voltage.

Coil Data @ 20°C

| PCL AC Coil | | | | |
|--------------------------|----------------------------|----------------------------|----------------------------|-------------------------|
| Rated Coil Voltage (VAC) | Coil Resistance (ohms)±10% | Must Operate Voltage (VAC) | Must Release Voltage (VAC) | Nominal Coil Power (VA) |
| 6 | 10 | 80% max. | 30% min. | abt. 1.4 |
| 12 | 40 | | | |
| 24 | 160 | | | |
| 48 | 600 | | | |
| 100 | 2,800 | | | |
| 110/120 | 3,400 | | | |
| 200 | 11,000 | | | |
| 220/240 | 13,600 | | | |

| PCL DC Coil | | | | |
|--------------------------|----------------------------|----------------------------|----------------------------|------------------------|
| Rated Coil Voltage (VAC) | Coil Resistance (ohms)±10% | Must Operate Voltage (VDC) | Must Release Voltage (VDC) | Nominal Coil Power (W) |
| 6 | 40 | 80% max. | 10% min. | abt. 0.9 |
| 12 | 160 | | | |
| 24 | 650 | | | |
| 48 | 2,600 | | | |
| 100/110 | 11,000 | | | |
| | | | | abt. 1.1 |

Operate Data @ 20°C

Must Operate Voltage: AC 80% of nominal voltage or less.
DC 80% of nominal voltage or less.

Must Release Voltage: AC 30% of nominal voltage or more.
DC 10% of nominal voltage or more.

Operate Time: AC 20ms max.
DC 15ms max.

Release Time: AC 20ms max.
DC 8ms max.

Environmental Data

Temperature Range:

Operating: -10°C to +55°C.

Humidity: 45 to 85%. (Non-condensing).

Vibration, Operational: 10 to 55Hz 1.0mm double amplitude.

Mechanical: 10 to 55Hz 1.0mm double amplitude.

Shock, Operational: 100m/s² (abt. 10G).

Mechanical: 1,000m/s² (abt. 100G).

Mechanical Data

Termination: Plug-in, PCB.

Enclosure: Snap-on cover.

Weight: 1.26 oz (32g) approximately.

Ordering Information

Typical Part Number

PCL -1 02A 1 S

1. Basic Series:

PCL = 3A, 5A type PCLH = 10A, 15A type

2. Number of Poles:

1 = 1 pole (PCLH only) 2 = 2 pole 4 = 4 pole (PCL only)

3. Coil Voltage:

01A=6VAC 02A=12VAC 03A=24VAC 04A=48VAC
 05A=100VAC 06A=110/120VAC 07A=200VAC 08A=220/240VAC
 01D=6VDC 02D=12VDC 03D=24VDC 04D=48VDC 05D=100/110VDC

4. Contact Material:

Blank = Ag (only available on 4 pole model) 1 = Ag Alloy (available with all versions)

5. Contact Arrangement:

Blank = Form C M = Form A

6. Case Type:

S = Standard (Smoke case)

7. Terminal Type:

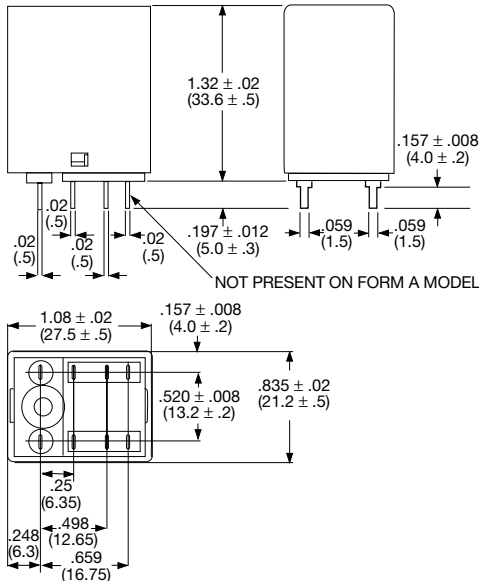
Blank = Plug-in P = PCB

8. Additional Designation:

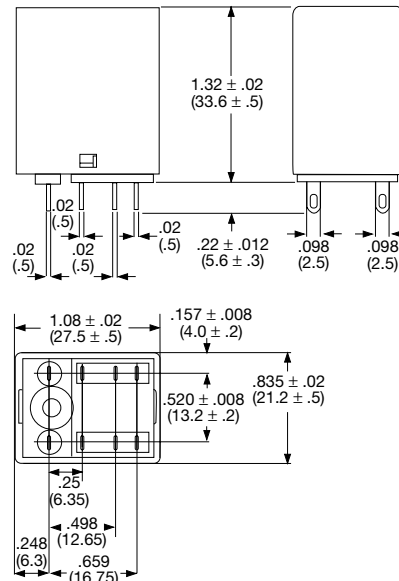
Blank = Standard C = 2 Pole, 3 Amp version

Outline Dimensions

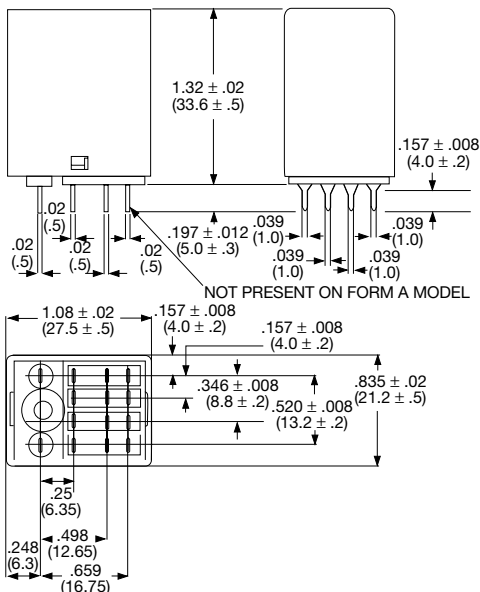
PCL 2c, 2a type (PCB Terminal)



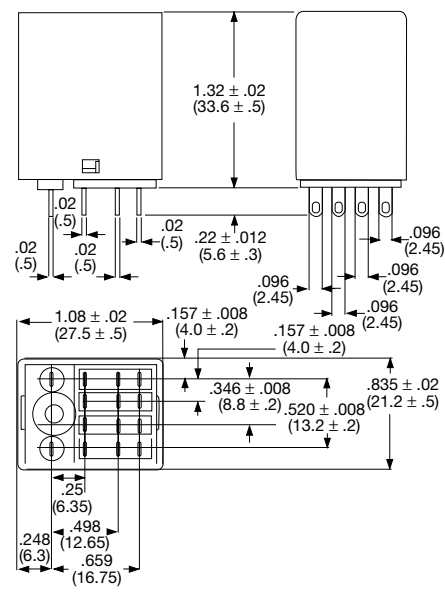
PCL 2c, 2a type (Plug-in Terminal)



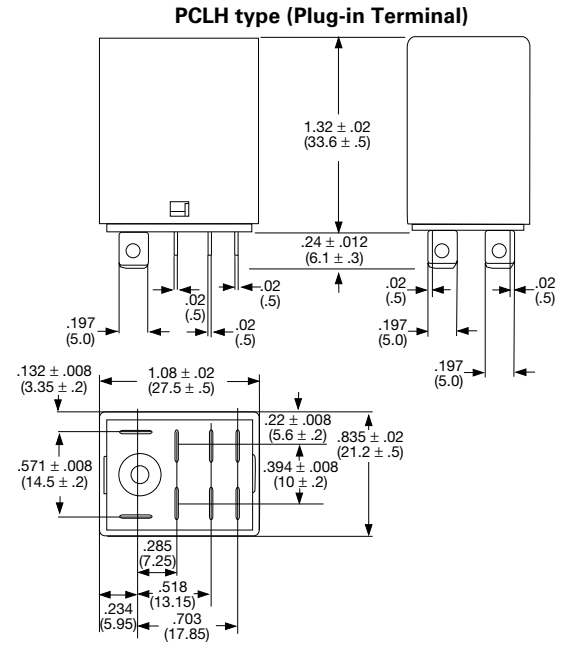
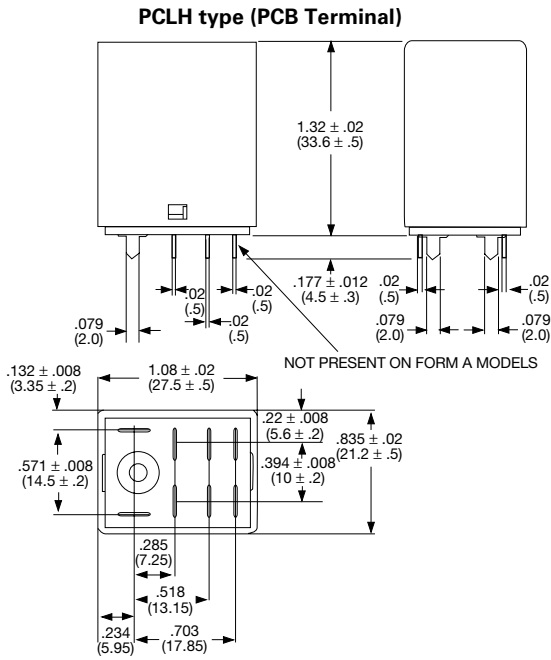
PCL 4c, 4a type (PCB Terminal)



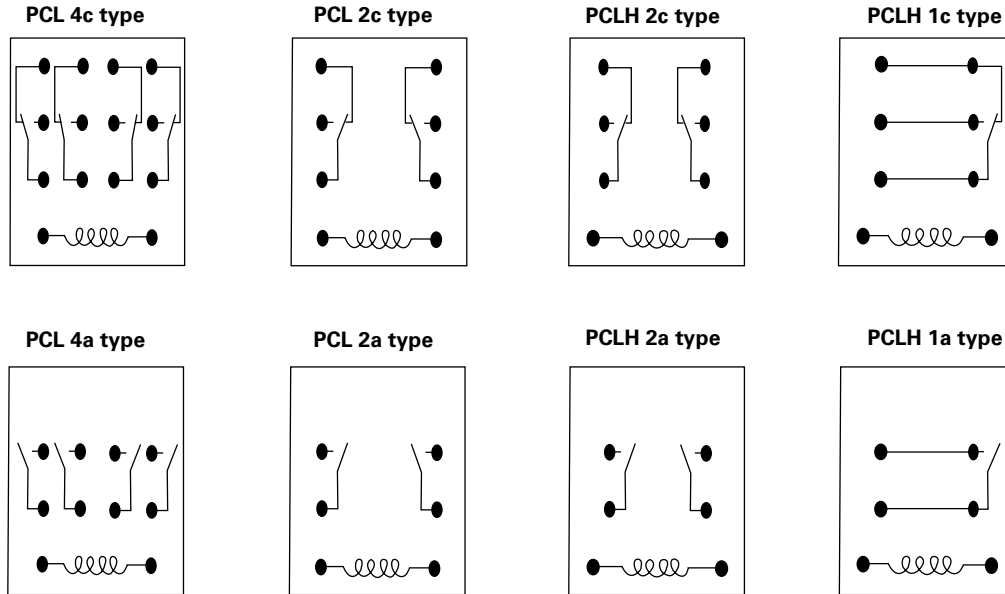
PCL 4c, 4a type (Plug-in Terminal)



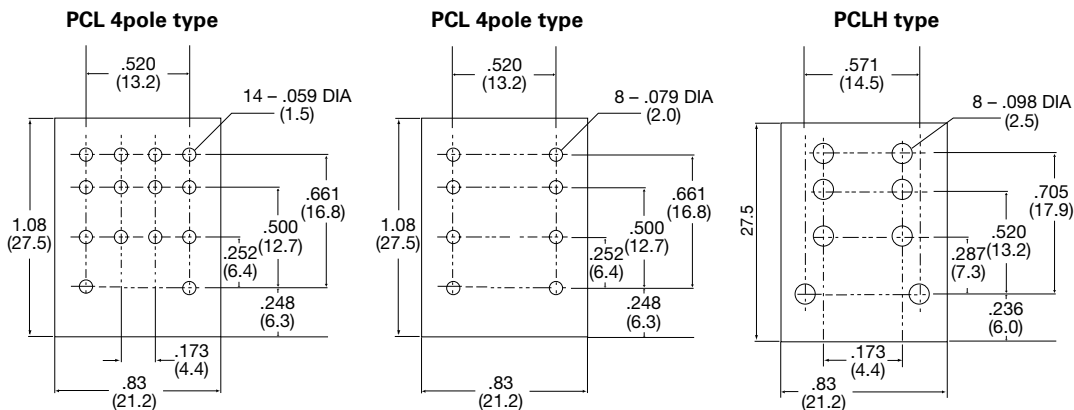
Outline Dimensions (continued)



Wiring Diagrams (Bottom Views)

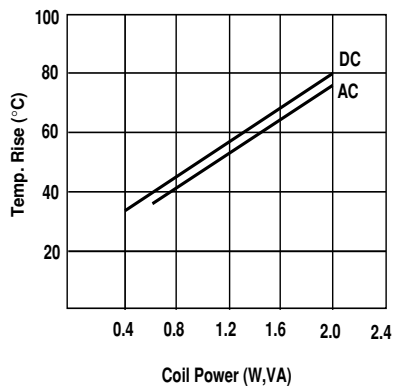


PC Board Layouts (Bottom Views)



Reference Data

Coil Temperature Rise



Operate Time

