# PCL/PCLH series

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

### Factory Automation, Process Controls, Electrical Panels, etc.

UL File No. E58304
CSA File No. LR48471

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 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 with UL Class F (155°C) coil insulation system standard.
- Optional flange mount case.
- 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 @ AC120V 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 (VDC)** | **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/s$^2$ (abt. 10G).
**Mechanical:** 1,000m/s$^2$ (abt. 100G).

### Mechanical Data

**Termination:** Plug-in, PCB.
**Enclosure:** Snap-on cover.
**Weight:** 1.26 oz (32g) approximately.

## Ordering Information

| Typical Part Number | PCL | -2 | 02A | 1 | | S | | ,000 |
|---|---|---|---|---|---|---|---|---|

**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 color) F = Flange mount (Smoke color)

**7. Terminal Type:**
Blank = Plug-in P = PCB

**8. Indicator Lamp:**
Blank = None L = Indicator Lamp

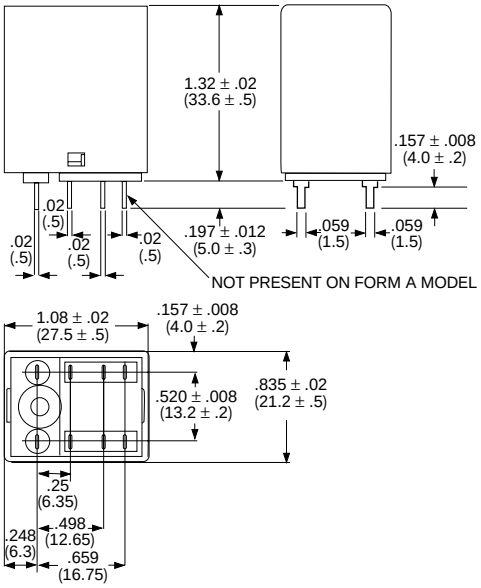
**9. Option:**
,000 = Standard model Other suffix = Custom model.

## Our authorized distributors are more likely to stock the following items for immediate delivery.

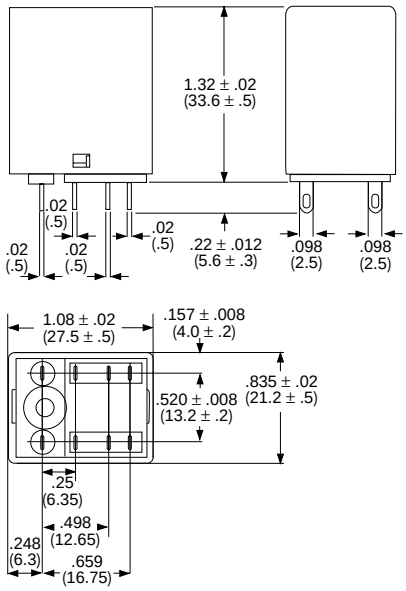
PCLH-202A1S,000
PCLH-203A1S,000
PCLH-206A1S,000
PCLH-208A1S,000
PCLH-202D1S,000
PCLH-203D1S,000
PCLH-204D1S,000
PCLH-205D1S,000
PCLH-206A1SP,000
PCLH-202D1SP,000
PCLH-203D1SP,000
PCLH-205D1SP,000

## Outline Dimsisions

**PCL 2c, 2a type (PCB Terminal)**




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






Dimensions are shown for reference purposes only.

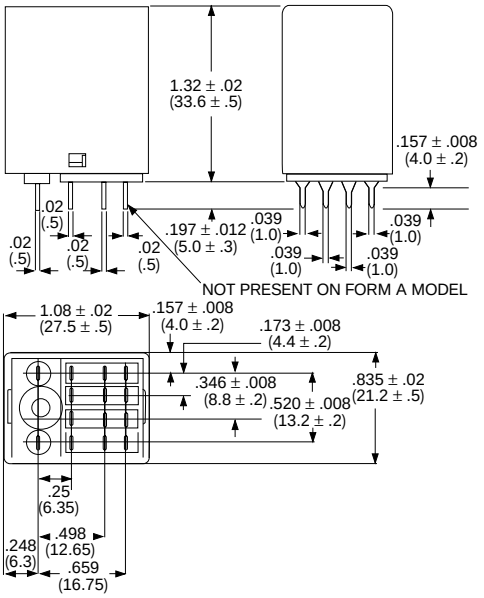
Dimensions are in inches over (millimeters) unless otherwise specified.

Specifications and availability subject to change.

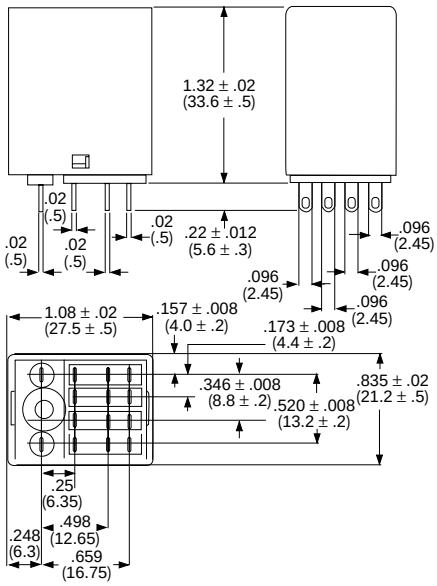
www.tycoelectronics.com
Technical support:
Refer to inside back cover.

## Outline Dimensions (continued)

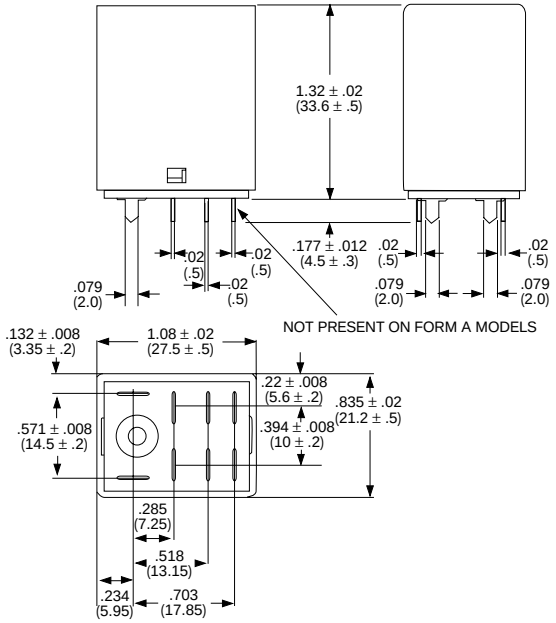
### PCL 4c, 4a type (PCB Terminal)



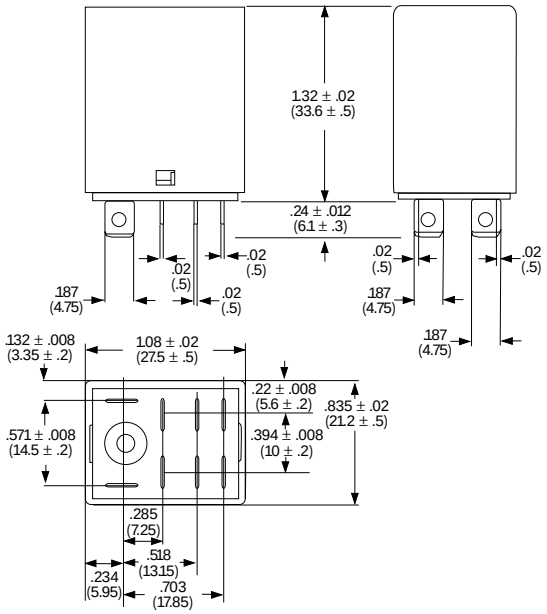

### PCL 4c, 4a type (Plug-in Terminal)



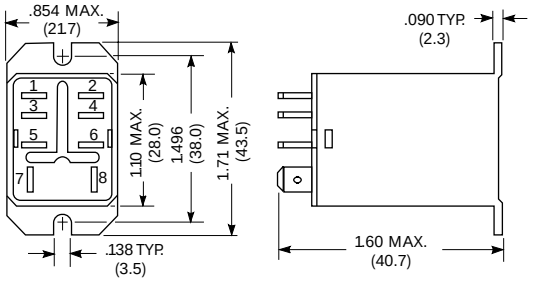

### PCLH type (PCB Terminal)



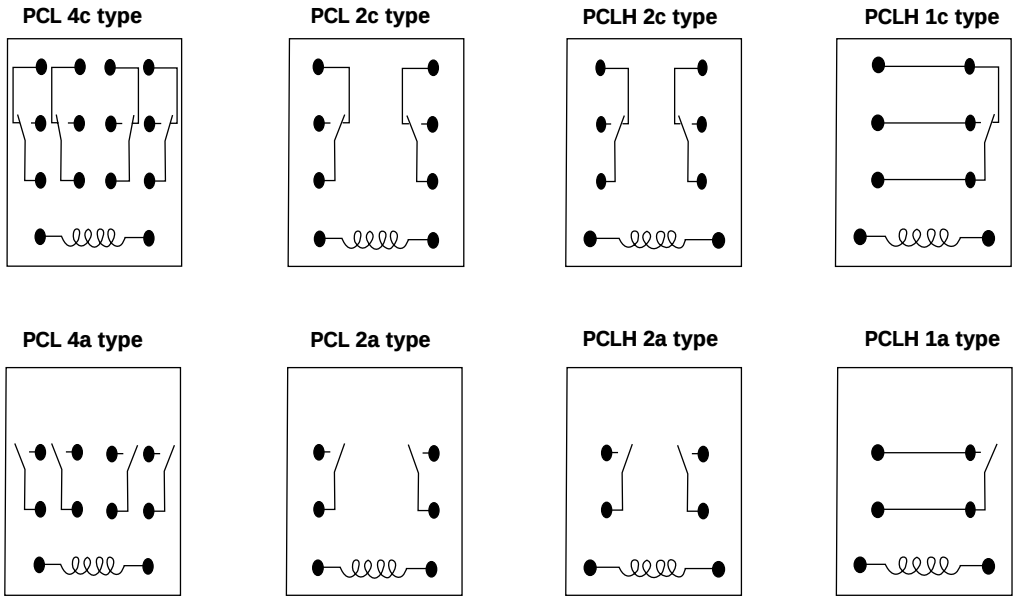

### PCLH type (Plug-in Terminal)



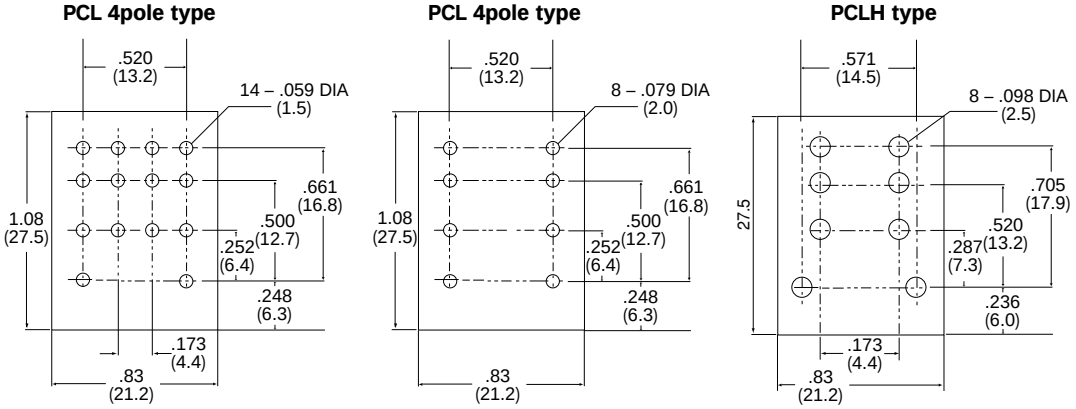

### PCLH type (Flange Mount Case)



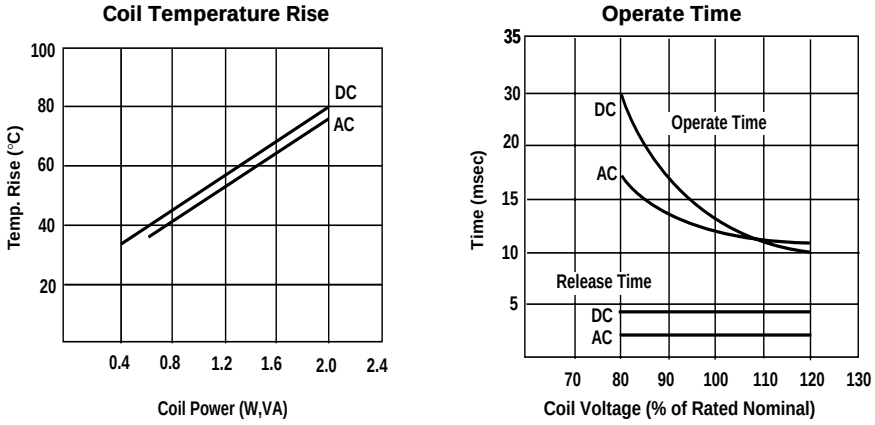
## Wiring Diagrams (Bottom Views)




## PC Board Layouts (Bottom Views)




## Reference Data




## Sockets

For PCL socket information refer to KH series sockets (page 712).
For PCLH socket information refer to K10 series sockets (page 722).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