

E222871

Miniature Rocker

## Specifications

|                    |  |                       |               |
|--------------------|--|-----------------------|---------------|
| Electrical Ratings | 5A @ 120VAC, 28VDC<br>2A @ 250VAC<br>See Contact Options | Dielectric Strength   | 1500Vrms min  |
| Electrical Life    | 50,000 cycles typical                                    | Insulation Resistance | >100MΩ min    |
| Contact Resistance | <20mΩ initial @ 2-4VDC, 100mA                            | Operating Temperature | -40°C to 85°C |
|                    |  | Storage Temperature   | -40°C to 85°C |

## Materials

|           |                              |
|-----------|------------------------------|
| Actuator  | ABS                          |
| Housing   | Diallyl Phthalate (DAP)      |
| Frame     | 6/6 Nylon                    |
| Bushing   | Brass or Zinc, Nickel Plated |
| Contacts  | Copper Alloy, Silver Plated  |
| Terminals | Brass, Silver Plated         |

## Features

- Wide variety of applications from consumer electronics to commercial
- Standard epoxy sealed terminations
- Gold contacts available for low power applications
- Available support brackets for greater stability
- Up to four poles with five functions available
- Many rocker and paddle styles to choose from
- Wide variety of terminal options

## Ordering Information

|   |     |   |   |     |   |  |  |  |   |   |   |
|---|-----|---|---|-----|---|--|--|--|---|---|---|
| 1. Series   | ANR | 1 | 1 | R11 | 2 |  |  |  | B | Q | E |
| ANR   |     |   |   |     |   |  |  |  |   |   |   |
| 2. Number of Poles  |     |   |   |     |   |  |  |  |   |   |   |
| 1 = SPDT  |     |   |   |     |   |  |  |  |   |   |   |
| 2 = DPDT  |     |   |   |     |   |  |  |  |   |   |   |
| 3 = 3PDT  |     |   |   |     |   |  |  |  |   |   |   |
| 4 = 4PDT  |     |   |   |     |   |  |  |  |   |   |   |
| 3. Switch Function  |     |   |   |     |   |  |  |  |   |   |   |
| 1 = ON-NONE-ON  |     |   |   |     |   |  |  |  |   |   |   |
| 2 = ON-NONE-(ON)  |     |   |   |     |   |  |  |  |   |   |   |
| 3 = ON-OFF-ON   |     |   |   |     |   |  |  |  |   |   |   |
| 4 = (ON)-OFF-(ON)   |     |   |   |     |   |  |  |  |   |   |   |
| 5 = ON-OFF-(ON)   |     |   |   |     |   |  |  |  |   |   |   |
| 6 = ON-ON-ON **See 3-way wiring section for details                             |     |   |   |     |   |  |  |  |   |   |   |
| 4. Actuator   |     |   |   |     |   |  |  |  |   |   |   |
| R11P / R11 = Rocker, PC mount / Panel mount                                     |     |   |   |     |   |  |  |  |   |   |   |
| R15P / R15 = Rocker, PC mount / Panel mount                                     |     |   |   |     |   |  |  |  |   |   |   |
| R19P / R19 = Rocker, PC mount / Panel mount                                     |     |   |   |     |   |  |  |  |   |   |   |
| R21P / R21 = Rocker, PC mount / Panel mount                                     |     |   |   |     |   |  |  |  |   |   |   |
| P13P / P13 = Paddle, PC mount / Panel mount                                     |     |   |   |     |   |  |  |  |   |   |   |
| P23P / P23 = Paddle, PC mount / Panel mount                                     |     |   |   |     |   |  |  |  |   |   |   |
| P43P / P43 = Paddle, PC mount / Panel mount                                     |     |   |   |     |   |  |  |  |   |   |   |
| P47P / P47 = Paddle, PC mount / Panel mount                                     |     |   |   |     |   |  |  |  |   |   |   |
| P48P / P48 = Paddle, PC mount / Panel mount                                     |     |   |   |     |   |  |  |  |   |   |   |
| R12 / R22 = Rocker, snap-in panel mount w/frame / snap-in panel mount w/o frame |     |   |   |     |   |  |  |  |   |   |   |
| P14 / P24 = Paddle, snap-in panel mount w/frame / snap-in panel mount w/o frame |     |   |   |     |   |  |  |  |   |   |   |
| P17 / P27 = Paddle, snap-in panel mount w/frame / snap-in panel mount w/o frame |     |   |   |     |   |  |  |  |   |   |   |
| P18 / P28 = Paddle, snap-in panel mount w/frame / snap-in panel mount w/o frame |     |   |   |     |   |  |  |  |   |   |   |
| R51R = Rocker, snap-in panel mount w/frame and LED (Red LED standard)           |     |   |   |     |   |  |  |  |   |   |   |
| R53R = Rocker, snap-in panel mount w/frame and LED (Red LED standard)           |     |   |   |     |   |  |  |  |   |   |   |
| 5. Actuator Color   |     |   |   |     |   |  |  |  |   |   |   |
| 1 = White   |     |   |   |     |   |  |  |  |   |   |   |
| 2 = Black   |     |   |   |     |   |  |  |  |   |   |   |
| 3 = Red   |     |   |   |     |   |  |  |  |   |   |   |
| 4 = Yellow  |     |   |   |     |   |  |  |  |   |   |   |
| 5 = Green   |     |   |   |     |   |  |  |  |   |   |   |
| 6 = Orange  |     |   |   |     |   |  |  |  |   |   |   |
| 7 = Blue  |     |   |   |     |   |  |  |  |   |   |   |
| 8 = Brown   |     |   |   |     |   |  |  |  |   |   |   |
| 9 = Gray  |     |   |   |     |   |  |  |  |   |   |   |
| 6. Frame Color  |     |   |   |     |   |  |  |  |   |   |   |
| 1 = White   |     |   |   |     |   |  |  |  |   |   |   |
| 2 = Black   |     |   |   |     |   |  |  |  |   |   |   |
| 3 = Red   |     |   |   |     |   |  |  |  |   |   |   |
| 4 = Yellow  |     |   |   |     |   |  |  |  |   |   |   |
| 5 = Green   |     |   |   |     |   |  |  |  |   |   |   |
| 6 = Orange  |     |   |   |     |   |  |  |  |   |   |   |
| 7 = Blue  |     |   |   |     |   |  |  |  |   |   |   |
| 8 = Brown   |     |   |   |     |   |  |  |  |   |   |   |
| 9 = Gray  |     |   |   |     |   |  |  |  |   |   |   |
| Blank = No Frame  |     |   |   |     |   |  |  |  |   |   |   |
| 7. Actuator Marking Style   |     |   |   |     |   |  |  |  |   |   |   |
| Blank = No marking  |     |   |   |     |   |  |  |  |   |   |   |
| A, B, C, D, E, F, G   |     |   |   |     |   |  |  |  |   |   |   |
| 8. Actuator Marking Color   |     |   |   |     |   |  |  |  |   |   |   |
| Blank = No marking  |     |   |   |     |   |  |  |  |   |   |   |
| W = White, standard   |     |   |   |     |   |  |  |  |   |   |   |
| B = Black   |     |   |   |     |   |  |  |  |   |   |   |
| 9. Terminals  |     |   |   |     |   |  |  |  |   |   |   |
| B = Solder lug  |     |   |   |     |   |  |  |  |   |   |   |
| C = PC pin  |     |   |   |     |   |  |  |  |   |   |   |
| D = Quick Connect   |     |   |   |     |   |  |  |  |   |   |   |
| H = Horizontal mount, right angle PC Pin; HS = Snap-in                          |     |   |   |     |   |  |  |  |   |   |   |
| V = Vertical mount, right angle PC pin  |     |   |   |     |   |  |  |  |   |   |   |
| S20 / S25 = PC pin with support bracket; V20 / V25 = Snap-in support bracket    |     |   |   |     |   |  |  |  |   |   |   |
| S35 / S40 = PC pin with support bracket   |     |   |   |     |   |  |  |  |   |   |   |
| 10. Contacts  |     |   |   |     |   |  |  |  |   |   |   |
| Q = Silver plated   |     |   |   |     |   |  |  |  |   |   |   |
| R = Gold plated   |     |   |   |     |   |  |  |  |   |   |   |
| G = Gold over Silver plated   |     |   |   |     |   |  |  |  |   |   |   |
| 11. Epoxy Seal  |     |   |   |     |   |  |  |  |   |   |   |
| E = Epoxy Seal  |     |   |   |     |   |  |  |  |   |   |   |

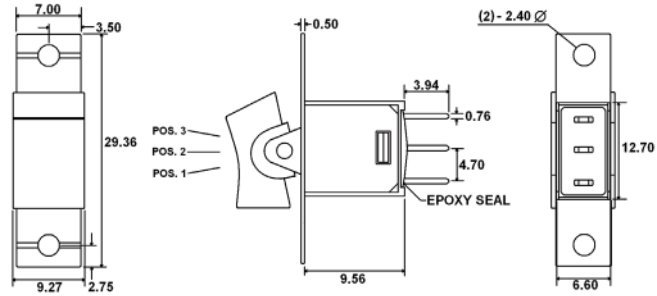
### Switch Function



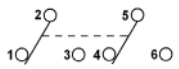
**SPDT**



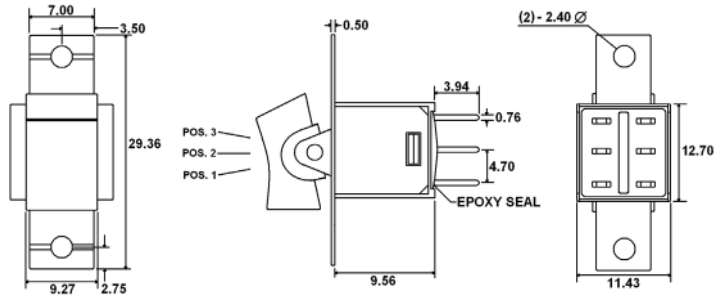
| Function  | Rocker Position |      |      |
|-----------|-----------------|------|------|
|           |                 |      |      |
| 1         | ON              | NONE | ON   |
| 2         | ON              | NONE | (ON) |
| 3         | ON              | OFF  | ON   |
| 4         | (ON)            | OFF  | (ON) |
| 5         | ON              | OFF  | (ON) |
| Terminals | 2-3             | -    | 2-1  |



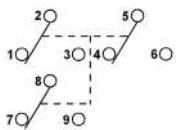
**DPDT**



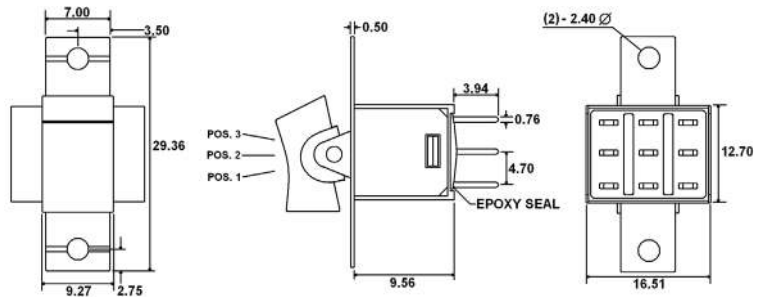
| Function  | Rocker Position |            |            |
|-----------|-----------------|------------|------------|
|           |                 |            |            |
| 1         | ON              | NONE       | ON         |
| 2         | ON              | NONE       | (ON)       |
| 3         | ON              | OFF        | ON         |
| 4         | (ON)            | OFF        | (ON)       |
| 5         | ON              | OFF        | (ON)       |
| Terminals | 2-3<br>5-6      | -          | 2-1<br>5-4 |
| 6         | ON              | ON         | ON         |
| Terminals | 2-3<br>5-6      | 2-3<br>5-4 | 2-1<br>5-4 |



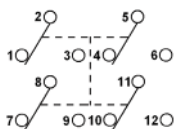
**3PDT**



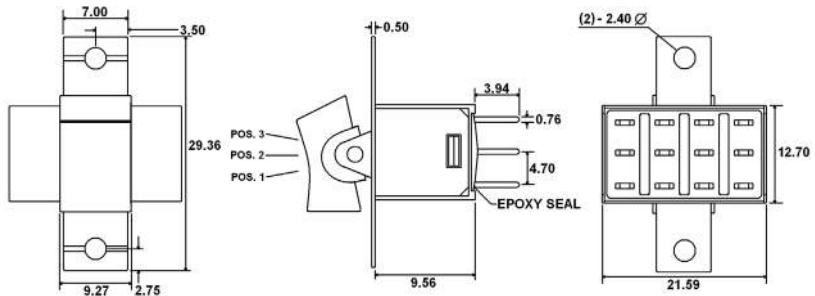
| Function  | Rocker Position   |      |                   |
|-----------|-------------------|------|-------------------|
|           |                   |      |                   |
| 1         | ON                | NONE | ON                |
| 2         | ON                | NONE | (ON)              |
| 3         | ON                | OFF  | ON                |
| 4         | (ON)              | OFF  | (ON)              |
| 5         | ON                | OFF  | (ON)              |
| Terminals | 2-3<br>5-6<br>8-9 | -    | 2-1<br>5-4<br>8-7 |



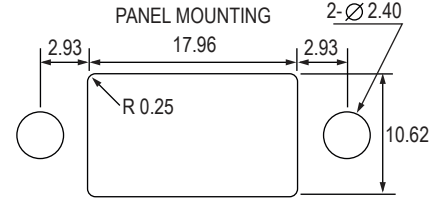
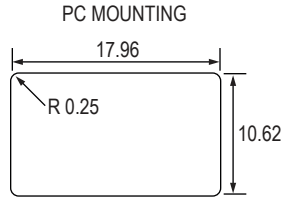
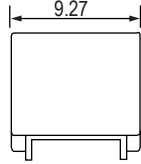
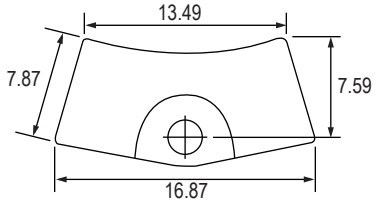
**4PDT**



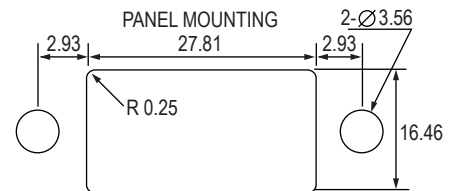
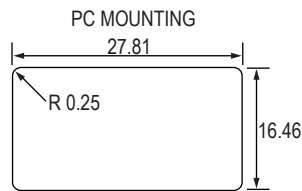
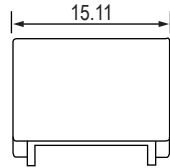
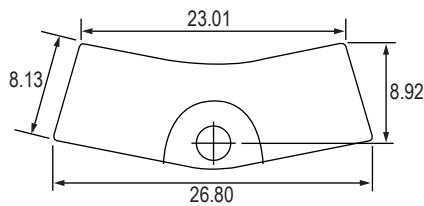
| Function  | Rocker Position            |                            |                            |
|-----------|----------------------------|----------------------------|----------------------------|
|           |                            |                            |                            |
| 1         | ON                         | NONE                       | ON                         |
| 2         | ON                         | NONE                       | (ON)                       |
| 3         | ON                         | OFF                        | ON                         |
| 4         | (ON)                       | OFF                        | (ON)                       |
| 5         | ON                         | OFF                        | (ON)                       |
| Terminals | 2-3<br>5-6<br>8-9<br>11-12 | -                          | 2-1<br>5-4<br>8-7<br>11-10 |
| 6         | ON                         | ON                         | ON                         |
| Terminals | 2-3<br>5-6<br>8-9<br>11-12 | 2-3<br>5-4<br>8-9<br>11-10 | 2-1<br>5-4<br>8-7<br>11-10 |



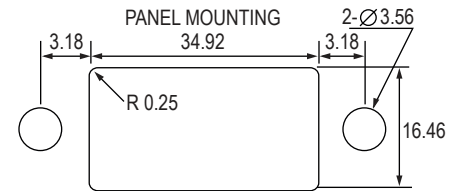
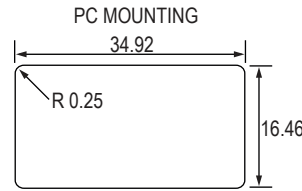
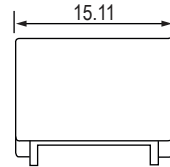
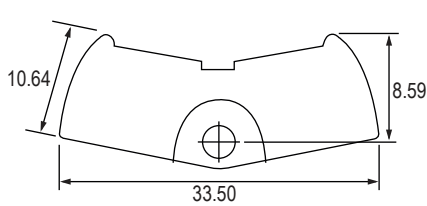
**Actuator Options - PC mount & Panel mount**



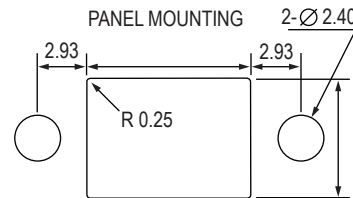
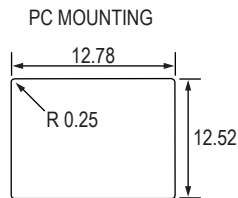
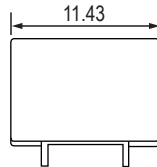
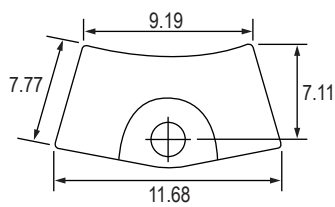
**R11P / R11**



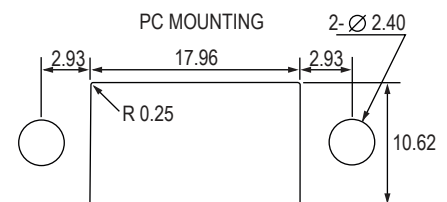
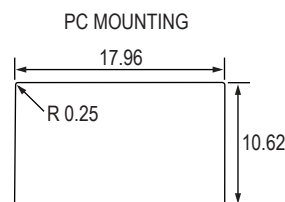
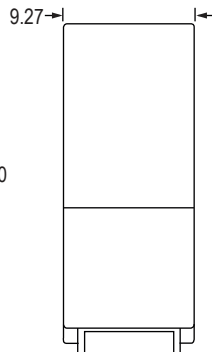
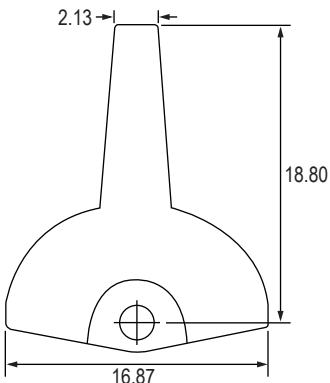
**R15P / R15**



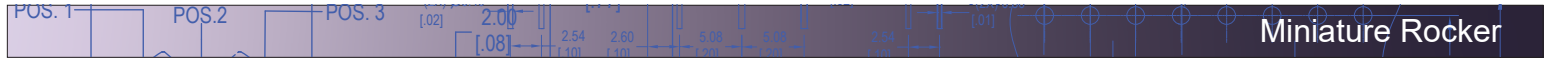
**R19P / R19**



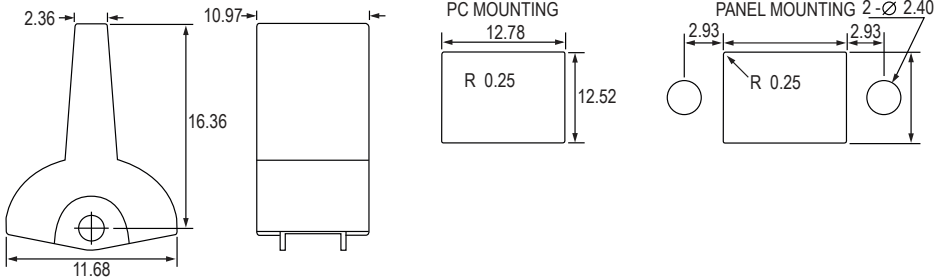
**R21P / R21**



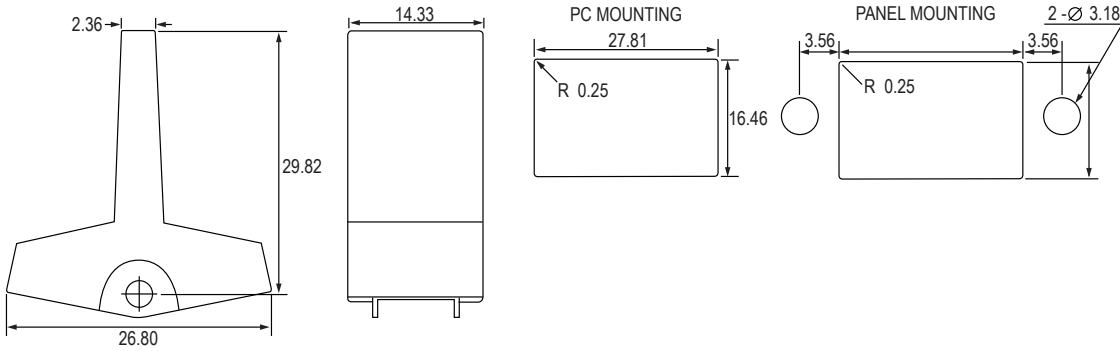
**P13P / P13**



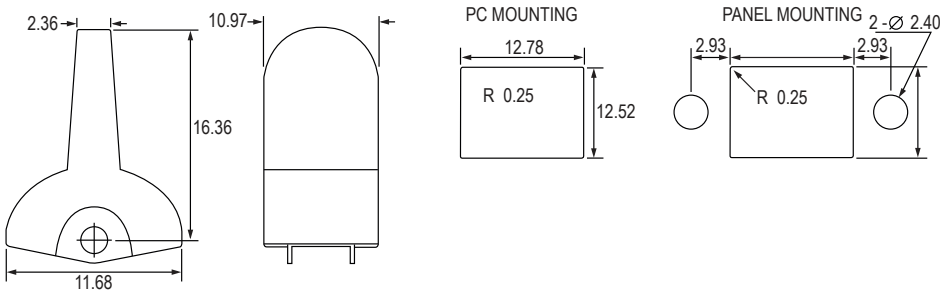
**Actuator Options - PC mount & Panel mount**



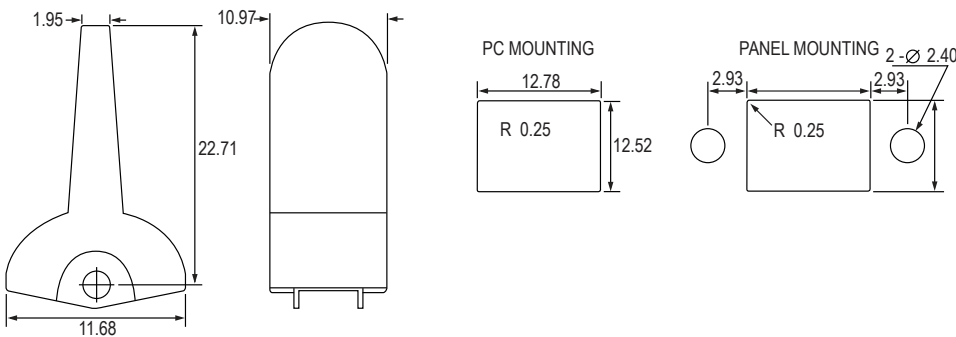
**P23P / P23**



**P43P / P43**

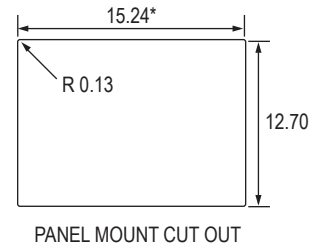
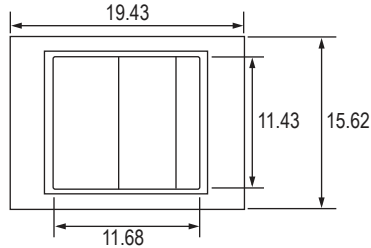
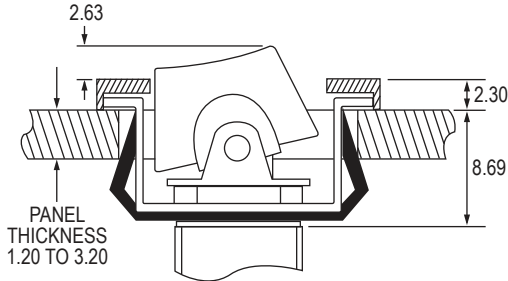


**P47P / P47**

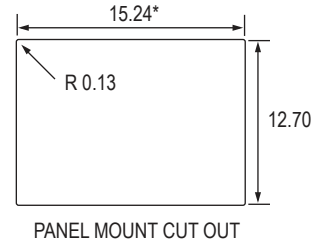
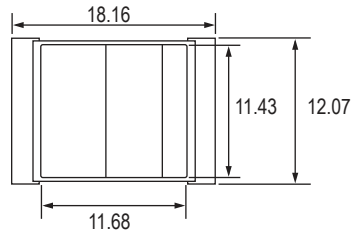


**P48P / P48**

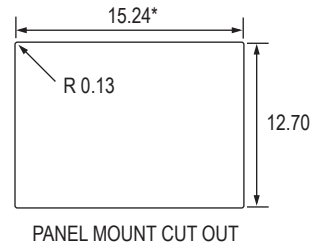
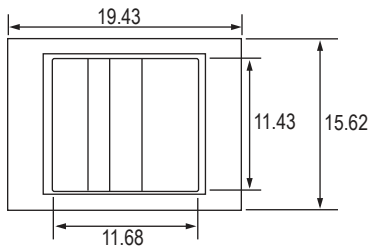
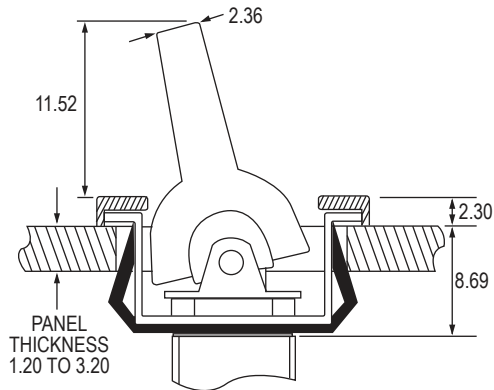
**Actuator Options - Snap-In Panel mount**



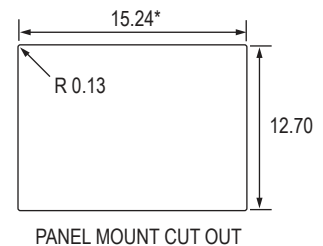
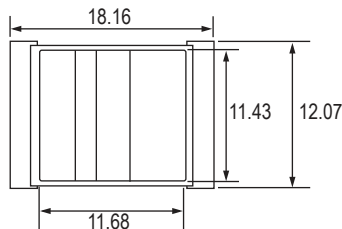
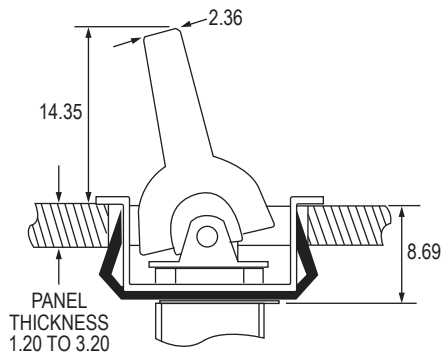
**R12 - Increase the length dimension to 15.75/15.88 for 1.5/3.20 thick panels**



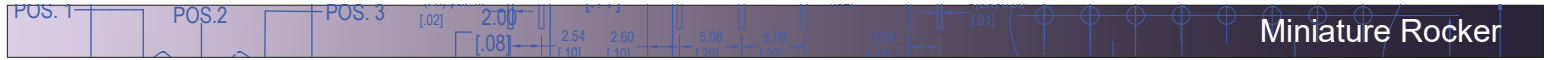
**R22 - Increase the length dimension to 15.75/15.88 for 1.5/3.20 thick panels**



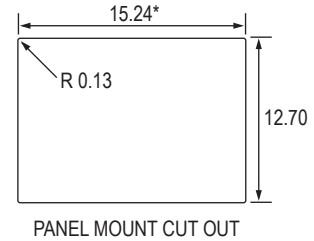
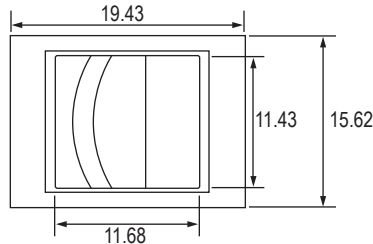
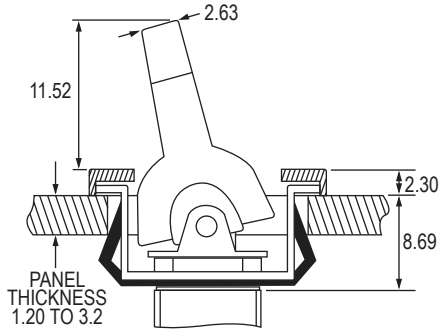
**P14 - Increase the length dimension to 15.75/15.88 for 1.5/3.20 thick panels**



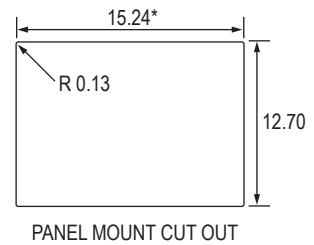
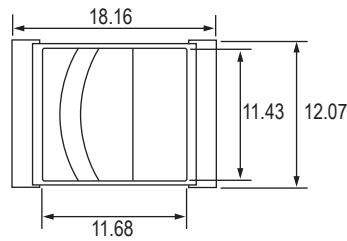
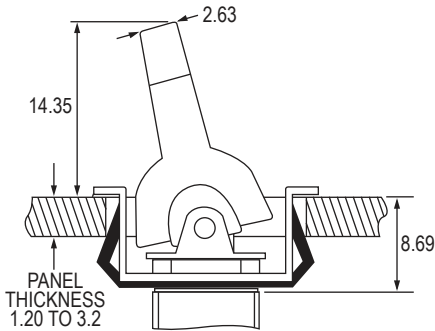
**P24 - Increase the length dimension to 15.75/15.88 for 1.5/3.20 thick panels**



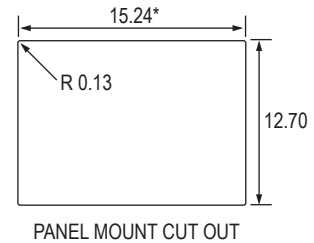
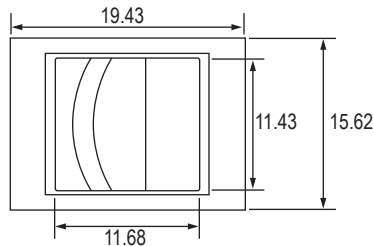
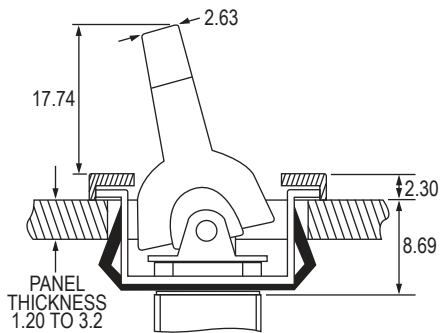
**Actuator Options - Snap-In Panel mount**



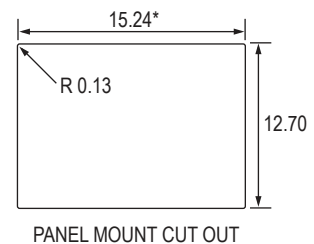
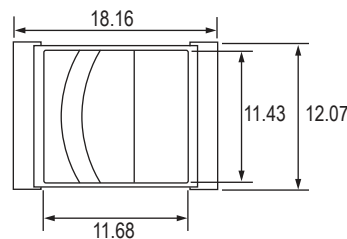
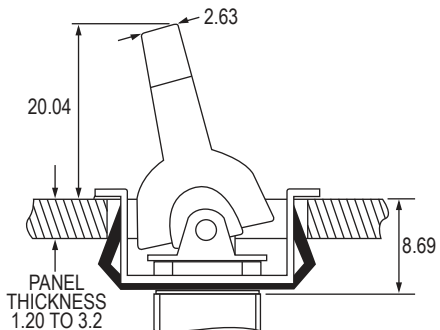
**P17 - Increase the length dimension to 15.75/15.88 for 1.5/3.20 thick panels**



**P27 - Increase the length dimension to 15.75/15.88 for 1.5/3.20 thick panels**

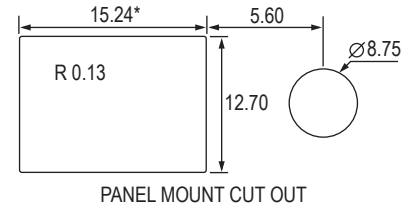
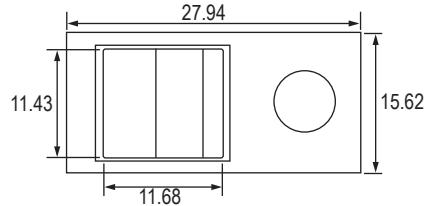
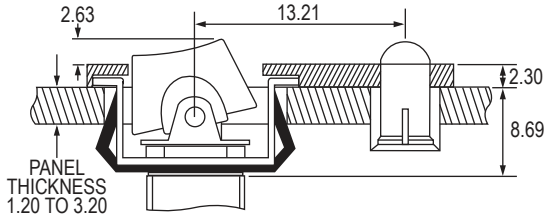


**P18 - Increase the length dimension to 15.75/15.88 for 1.5/3.20 thick panels**

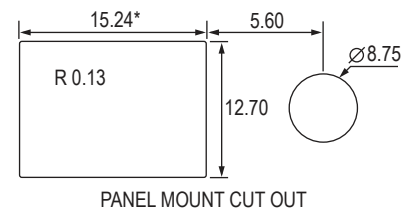
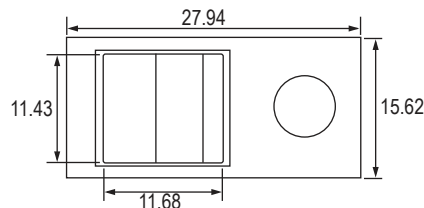
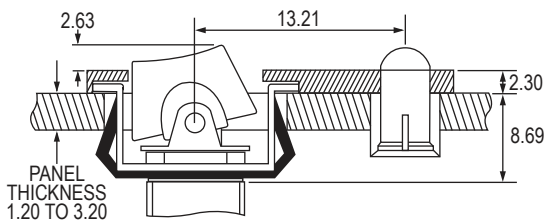


**P28 - Increase the length dimension to 15.75/15.88 for 1.5/3.20 thick panels**

## Actuator Options - Snap-In Panel mount

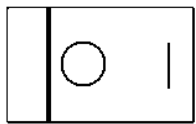


**R51R - Increase the length dimension to 15.75/15.88 for 1.5/3.20 thick panels**

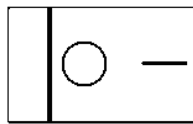


**P53R - Increase the length dimension to 15.75/15.88 for 1.5/3.20 thick panels**

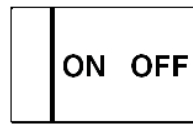
## Actuator Markings



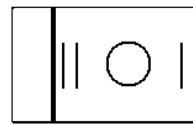
A



B



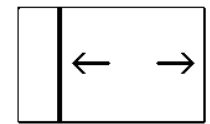
C



D

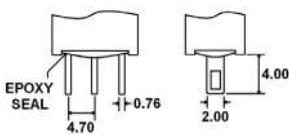


E

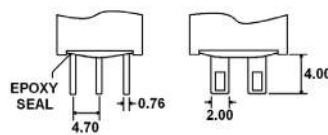


F

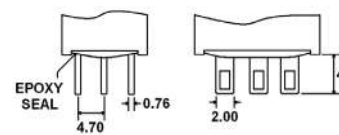
## Terminal Options



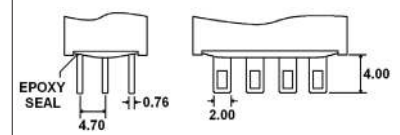
**B Single Pole**



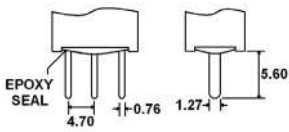
**B Double Pole**



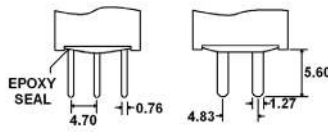
**B 3Pole**



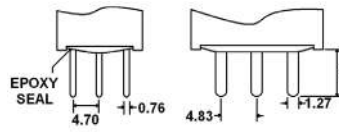
**B 4Pole**



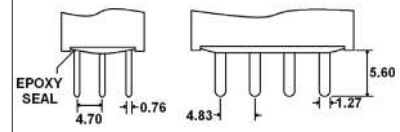
**C Single Pole**



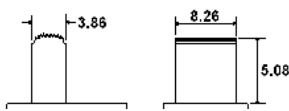
**C Double Pole**



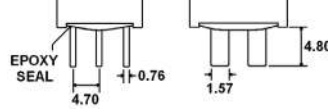
**C 3Pole**



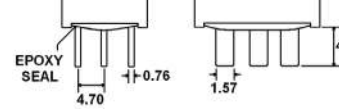
**C 4Pole**



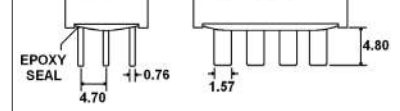
**D Single Pole**



**D Double Pole**

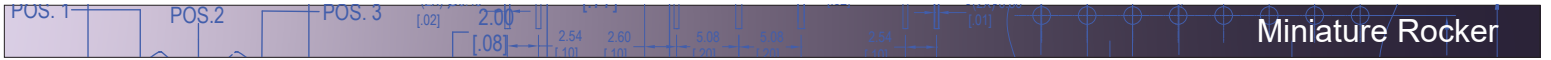


**D 3Pole**

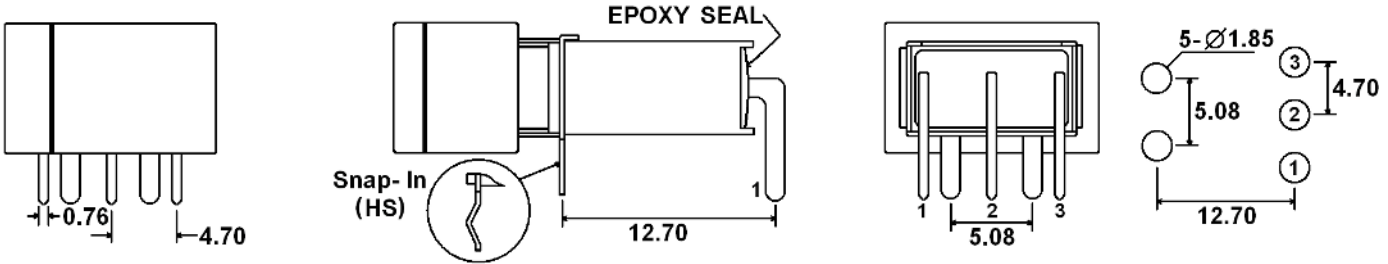


**D 4Pole**

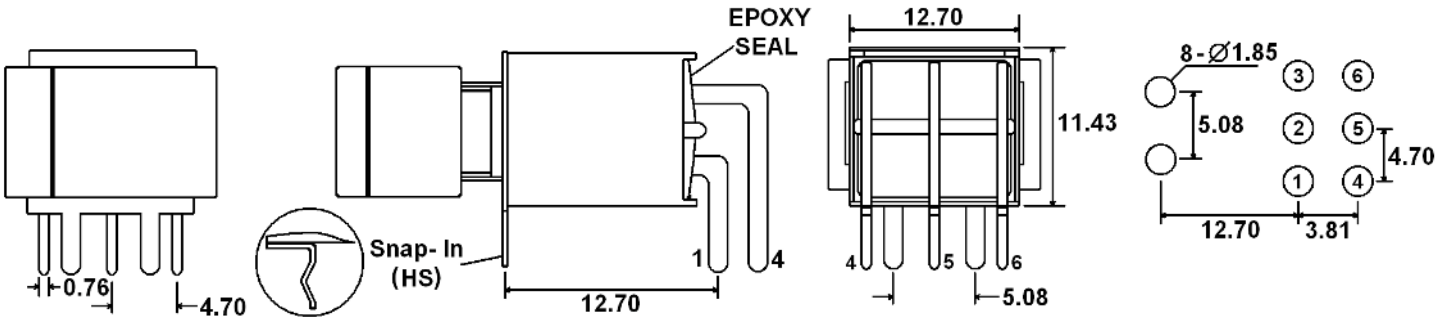




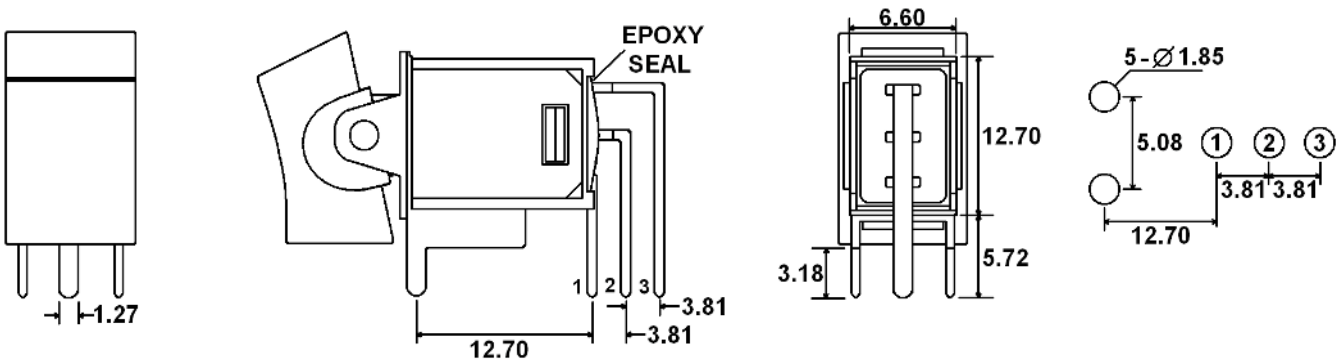
**Terminal Options**



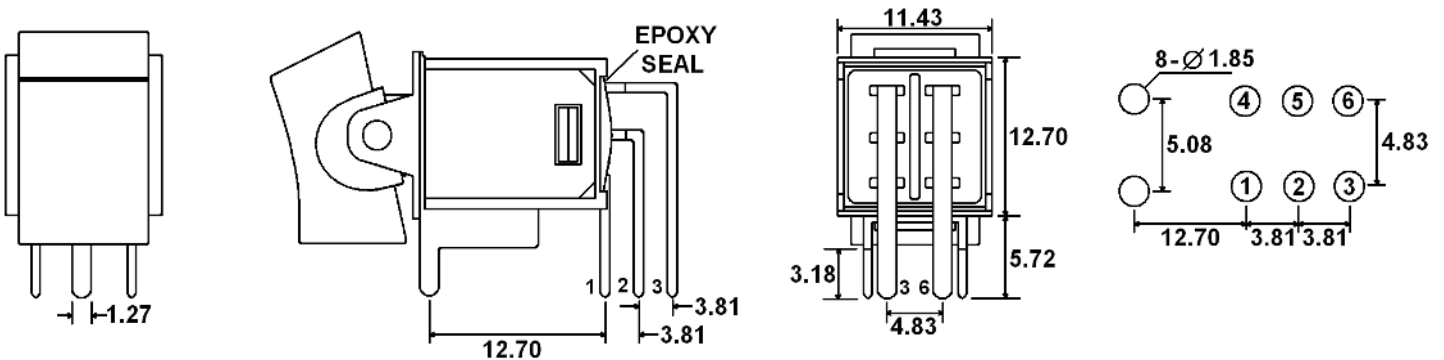
**H (HS - Snap In) = Horizontal mount, right angle PC pins, single pole**



**H (HS - Snap In) = Horizontal mount, right angle PC pins, double pole**

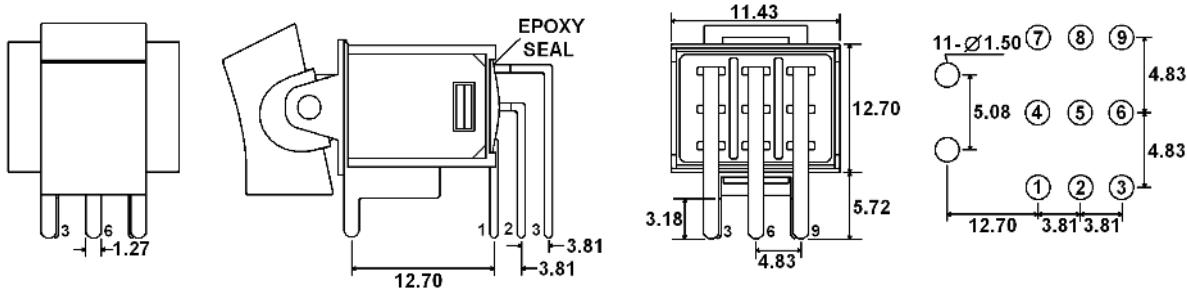


**V = Vertical mount, right angle PC pins, single pole**

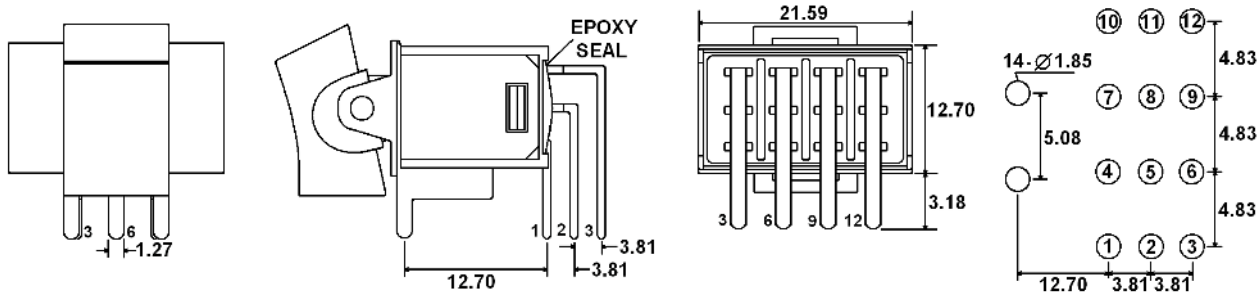


**V = Vertical mount, right angle PC pins, double pole**

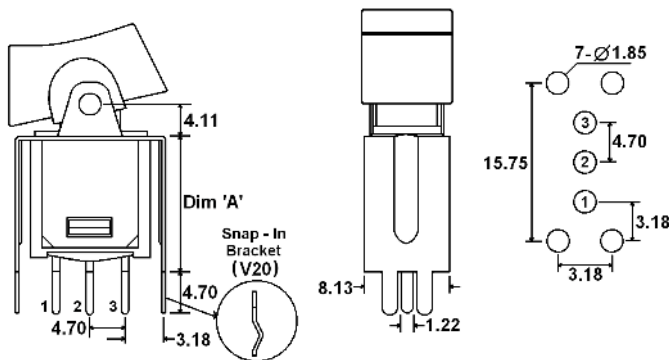
## Terminal Options



**V = Vertical mount, right angle PC pins, three pole**

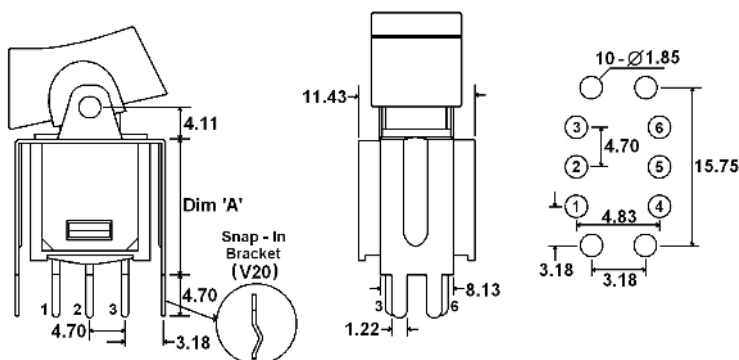


**V = Vertical mount, right angle PC pins, four pole**



| Terminal Option | "A" Dimension |
|-----------------|---------------|
| S20 / V20       | 11.68         |
| S25 / V25       | 16.00         |

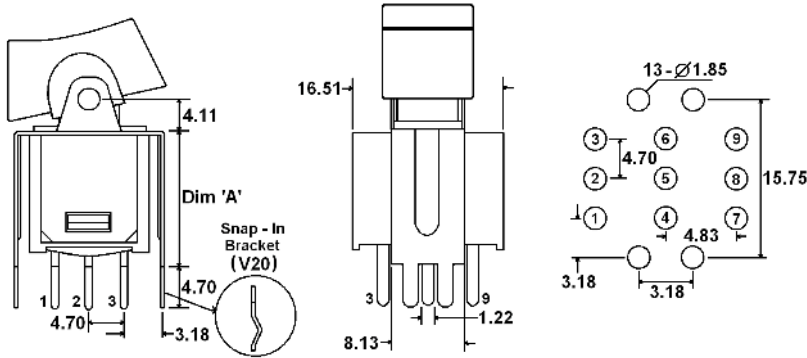
**S20/25 (V20/25 - Snap In) = PC pins with support bracket, single pole**



| Terminal Option | "A" Dimension |
|-----------------|---------------|
| S20 / V20       | 11.68         |
| S25 / V25       | 16.00         |

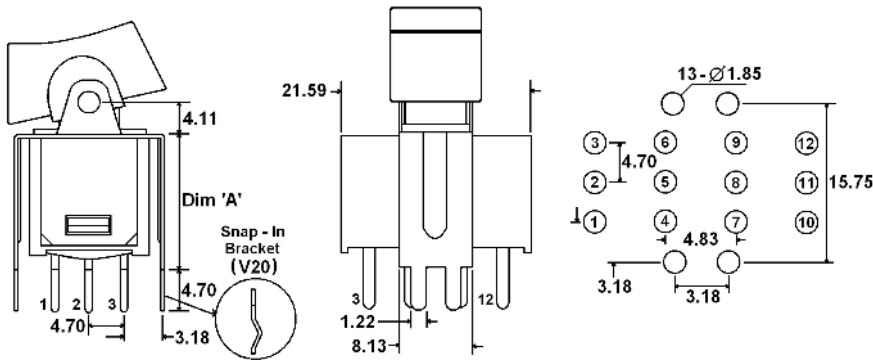
**S20/25 (V20/25 - Snap In) = PC pins with support bracket, double pole**

## Terminal Options



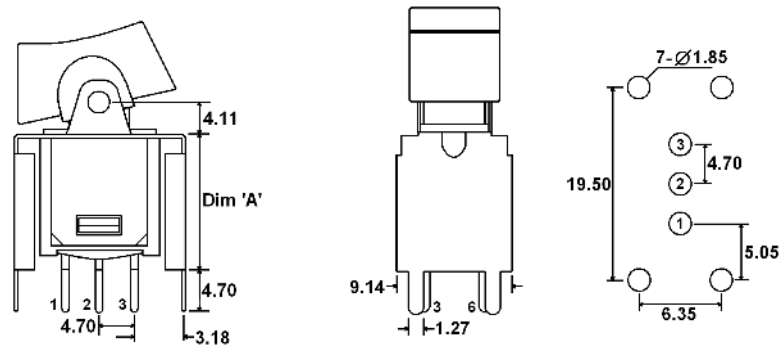
| Terminal Option | "A" Dimension |
|-----------------|---------------|
| S20 / V20       | 11.68         |
| S25 / V25       | 16.00         |

**S20/25 (V20/25 - Snap In) = PC pins with support bracket, three pole**



| Terminal Option | "A" Dimension |
|-----------------|---------------|
| S20 / V20       | 11.68         |
| S25 / V25       | 16.00         |

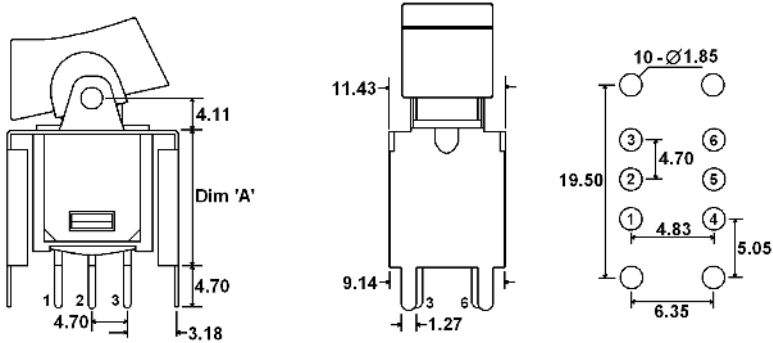
**S20/25 (V20/25 - Snap In) = PC pins with support bracket, four pole**



| Terminal Option | "A" Dimension |
|-----------------|---------------|
| S35             | 11.68         |
| S40             | 16.00         |

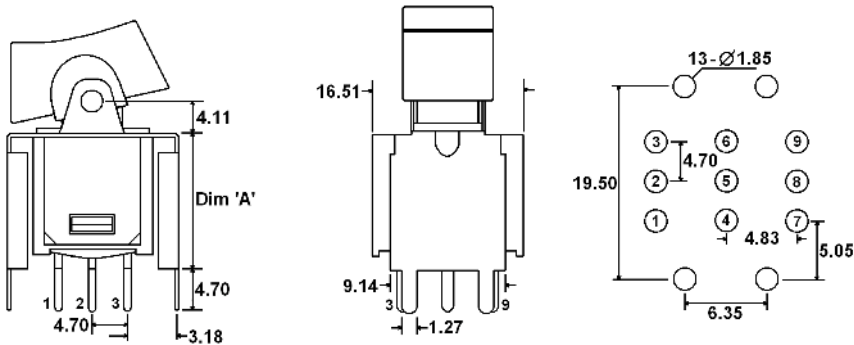
**S40 (V40 - Snap In) = PC pins with support bracket, single pole**

### Terminal Options



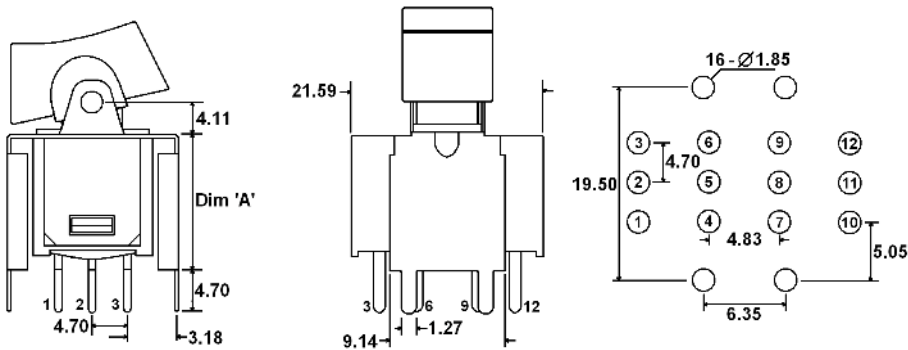
| Terminal Option | "A" Dimension |
|-----------------|---------------|
| S35             | 11.68         |
| S40             | 16.00         |

**S40 (V40 - Snap In) = PC pins with support bracket, double pole**



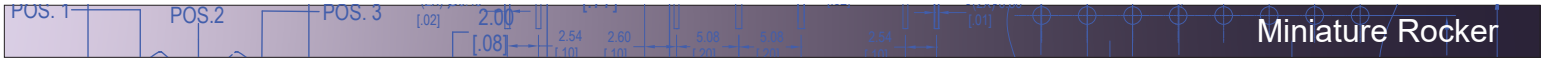
| Terminal Option | "A" Dimension |
|-----------------|---------------|
| S35             | 11.68         |
| S40             | 16.00         |

**S40 (V40 - Snap In) = PC pins with support bracket, three pole**



| Terminal Option | "A" Dimension |
|-----------------|---------------|
| S35             | 11.68         |
| S40             | 16.00         |

**S40 (V40 - Snap In) = PC pins with support bracket, four pole**

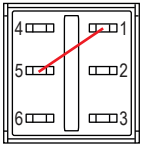


### Contact Options

| Designator | Contact Material         | Terminal Material         | Electrical Ratings  |
|------------|--------------------------|---------------------------|---|
| Q          | Silver Plating           | Silver Plating            | 5A @ 120VAC, 28VDC; 2A @ 250VAC                                 |
| R          | Gold over Nickel Plating | Gold over Nickel Plating  | 0.4VA max @ 20VAC or VDC max                                    |
| G          | Gold over Silver Plating | Gold over Silver Plateing | 0.4VA max @ 20VAC or VDC max or 5A @ 120VAC, 28VDC; 2A @ 250VAC |

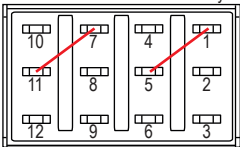
### Three Way Wiring Diagram

Customer must wire externally



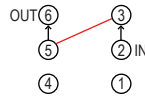
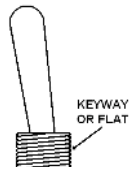
BOTTOM VIEW

Customer must wire externally

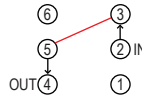
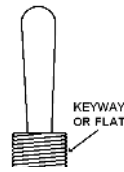


BOTTOM VIEW

Position 1



Position 2



Position 3

