

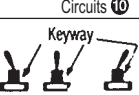
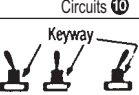
## Ordering Table — Standard Toggle Switches

**HOW TO ORDER YOUR DESIGN** (Bold Face Type indicates items normally in Distributor Stock)

Following the table from left to right, the designer is able to specify the options wanted. The options are described and illustrated on pages 24-31. Refer to page 57 for mounting hardware.

To determine a part number select the options desired and fill in the boxes in the selection guides illustrated below.

### Toggle Switch Selection Guide

| Toggle Switch Series | Poles and Throw |      | Circuit                                                                           |          | Lever Options |                                                                                                                                                                                                    | Lever Finish | Bushing Options  |        | Terminal Type                      |      | Contact Material  |      | Other                     |      |                          |   |   |               |      |     |     |      |    |               |   |                                         |    |                              |     |  |
|----------------------|-----------------|------|-----------------------------------------------------------------------------------|----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------|--------|------------------------------------|------|-------------------|------|---------------------------|------|--------------------------|---|---|---------------|------|-----|-----|------|----|---------------|---|-----------------------------------------|----|------------------------------|-----|--|
| Series               | No.             | Code |  |          |               | Code                                                                                                                                                                                               | Type         | Code             | Finish | Code                               | Type | Code              | Type | Code                      | Type | Code                     |   |   |               |      |     |     |      |    |               |   |                                         |    |                              |     |  |
| A                    | SPDT            | 1    |  | POS. "C" |               | Lever Lock<br>K Bushing Only<br>.840 Bat<br>.640 Bat<br>.550 Bat<br>Long Mod Cap<br>Short Mod Cap<br>.200 Bat<br>.840 Flat<br>.450 Flat<br>.250 Flat<br>.410 Bat<br>.468 Large 15<br>.687 Large 13 | K1           | Bright Chrome 14 | 1      | Splashproof Lever 3 & Bushing Seal | CW   | Right Angle PC 11 | A    | Gold/Nickel/Brass         | B    | Epoxy Sealed Terminals 7 | P |   |               |      |     |     |      |    |               |   |                                         |    |                              |     |  |
|                      | DPDT            | 2    |                                                                                   | ON       | OFF           |                                                                                                                                                                                                    | ON           | 21               | L0     | Stain Chrome                       | 2    | Splashproof 3     | CX   | Vertical PC .100 Spacing  | AV   | Gold/Nickel/Silver       |   | G | Anti-Rotation |      |     |     |      |    |               |   |                                         |    |                              |     |  |
|                      | 3PDT            | 3    |                                                                                   | ON       | NONE          |                                                                                                                                                                                                    | ON           | 23               | L1     | Black 1                            | 3    | Lever Seal Only   | D    | Vertical PC .150 Spacing  | AV2  | Coin Silver              |   | Q | Anti-Jam      |      |     |     |      |    |               |   |                                         |    |                              |     |  |
|                      | 4PDT            | 4    |                                                                                   | ON       | NONE          |                                                                                                                                                                                                    | ON*          | 26               | L2     | Black Nylon 8                      | 4    | .280 Threaded 2   | D9   | Printed Circuit Terminals | C    | 15                       |   | M |               |      |     |     |      |    |               |   |                                         |    |                              |     |  |
|                      |                 |      |                                                                                   |          |               |                                                                                                                                                                                                    |              |                  |        |                                    |      |                   |      |                           |      |                          |   |   |               | ON*  | OFF | ON* | 27   | P1 | Red Nylon 8   | 5 | .350 Flatted With Shoulder              | H  | Right Angle 9 Same Throw     | R   |  |
|                      |                 |      |                                                                                   |          |               |                                                                                                                                                                                                    |              |                  |        |                                    |      |                   |      |                           |      |                          |   |   |               | ON   | OFF | ON* | 31   | P3 | White Nylon 8 | 6 | .350 Keyway With Shoulder               | H3 | Right Angle 9 Opposite Throw | R2  |  |
|                      |                 |      |                                                                                   |          |               |                                                                                                                                                                                                    |              |                  |        |                                    |      |                   |      |                           |      |                          |   |   |               | ON   | ON  | ON  | 32   | P4 |               |   | Locking K1 Lever Only                   | K  | PC & Support 6               | V30 |  |
|                      |                 |      |                                                                                   |          |               |                                                                                                                                                                                                    |              |                  |        |                                    |      |                   |      |                           |      |                          |   |   |               | ON   | ON  | ON* | 33   | S  |               |   | 15/32 Dia. 12                           | T  | PC & Support 6               | V40 |  |
|                      |                 |      |                                                                                   |          |               |                                                                                                                                                                                                    |              |                  |        |                                    |      |                   |      |                           |      |                          |   |   |               | NONE | ON  | ON* | 34 5 | T1 |               |   | Splashproof Lever 12 15/32 & Panel Seal | TW | PC & Support 6               | V60 |  |
|                      |                 |      |                                                                                   |          |               |                                                                                                                                                                                                    |              |                  |        |                                    |      |                   |      |                           |      |                          |   |   |               | ON*  | ON  | ON* | 35   | T  |               |   | 15/32 Splashproof 12 Lever Seal Only    | TX | PC & Support 6               | V70 |  |
|                      |                 |      |                                                                                   |          |               |                                                                                                                                                                                                    |              |                  |        |                                    |      |                   |      |                           |      |                          |   |   |               | NONE | ON  | ON  | 53 5 |    |               |   | .350 Threaded                           | Y  | .750 Wire Wrap               | W   |  |
|                      |                 |      |                                                                                   |          |               |                                                                                                                                                                                                    |              |                  |        |                                    |      |                   |      |                           |      |                          |   |   |               |      |     |     |      |    |               |   | .437 Threaded (With P3 Only)            | Y5 | .964 Wire Wrap               | W1  |  |
|                      |                 |      |                                                                                   |          |               |                                                                                                                                                                                                    |              |                  |        |                                    |      |                   |      |                           |      |                          |   |   |               |      |     |     |      |    |               |   | .350 Smooth                             | Y9 | .425 Wire Wrap               | W3  |  |
|                      |                 |      |                                                                                   |          |               |                                                                                                                                                                                                    |              |                  |        |                                    |      | 1.062 Wire Wrap   | W4   |                           |      |                          |   |   |               |      |     |     |      |    |               |   |                                         |    |                              |     |  |
|                      |                 |      |                                                                                   |          |               |                                                                                                                                                                                                    |              |                  |        |                                    |      | Solder Lugs       | Z    |                           |      |                          |   |   |               |      |     |     |      |    |               |   |                                         |    |                              |     |  |
|                      |                 |      |                                                                                   |          |               |                                                                                                                                                                                                    |              |                  |        | Quick Connect                      | Z3   |                   |      |                           |      |                          |   |   |               |      |     |     |      |    |               |   |                                         |    |                              |     |  |

\*Momentary Contact

1 Available on S, M and P3 only.

2 Add .070 to lever length when using these bushings.

3 Available with S, M, L0, L1, L2, L3, L4 lever options. Consult factory for availability.

4 Standard on P1, P3, P4 and K1 lever options. Available on all other levers except T & T1.

5 These circuits are NOT available with the following 3 and 4 pole options: A, AV, AV2, V30, V40, V60 and V70.

6 1 and 2 pole only.

7 Epoxy seal standard on all terminal options.

### EXAMPLES:

**A232L01YW1B** = DPDT toggle switch with an ON-ON-ON circuit, .840" long lever in a bright chrome finish, .350 threaded bushing, .964" long wire wrap terminals, gold/brass contacts and epoxy sealed terminals.

### SPECIFICATIONS:

#### Contact Ratings —

Letter codes G and Q — 6 amp at 125 VAC, 3 amp @ 250 VAC (U.L. recognized, CSA certified) or 6 amp at 28 VDC resistive.

Letter codes B and G — 0.5. volt-amp (VA) maximum @ 28 V maximum (AC or DC).

**Life Under Load** — 60,000 make-and-break cycles — resistive load only.

**Initial Contact Resistance** — 10 milliohms maximum 3 VDC, 100 ma for both silver and gold plated contacts.

**Insulation Resistance** — 1 & 2 pole —1,000 megohms, min.  
3 & 4 pole —1,000 megohms, min.

**Dielectric Strength** — 1,000 volts rms at sea level.

**Bushing Strength** — 12 pound-inches without physical damage to switch.

**Weight (including hardware)** — SP 0.19 oz.; DP 0.23 oz.; 3-pole 0.28 oz.; 4-pole 0.32 oz.

### MATERIALS:

**Base (body)** — 1- and 2-pole —Diallyl Phthalate (DAP).  
3- and 4-pole — high strength phenolic.

**Lever (toggle)** — Brass, chrome plated.

**Flat Lever** — Brass, satin chrome finish.

**Locking lever cap** — Anodized aluminum.

**Bushing** — Brass, nickel plated.

**Clamp (frame)** — Stainless steel.

**Support brackets** — Steel, tin plated.

**Switching Contacts and Rockers** —

Letter Code B — gold/nickel/brass

Letter Code G — gold/nickel/silver

Letter Code Q — Coin silver

**Center Terminal**

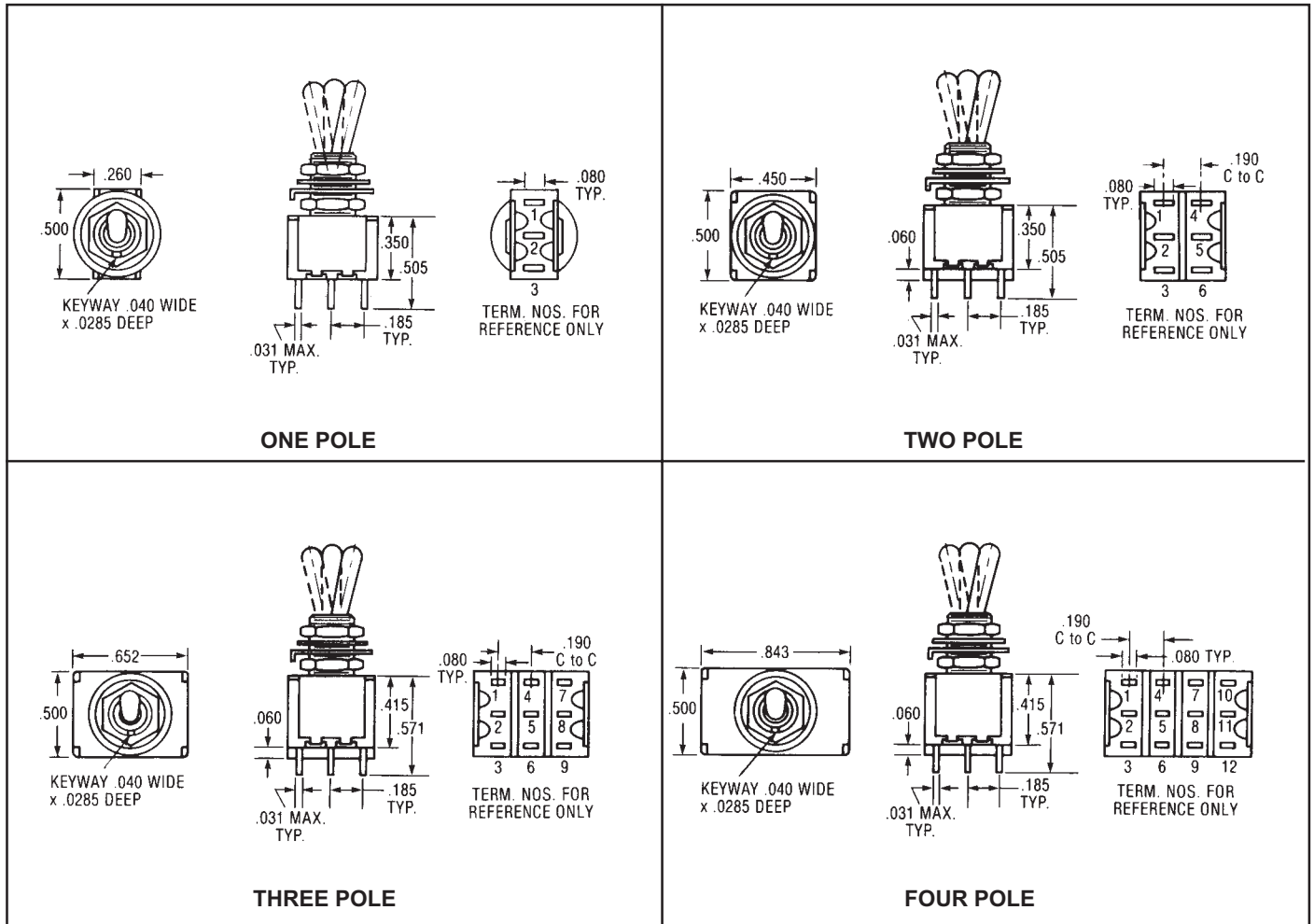
Letter Codes B, G — Gold flash/nickel/brass

Letter Code Q — Silver plated brass.

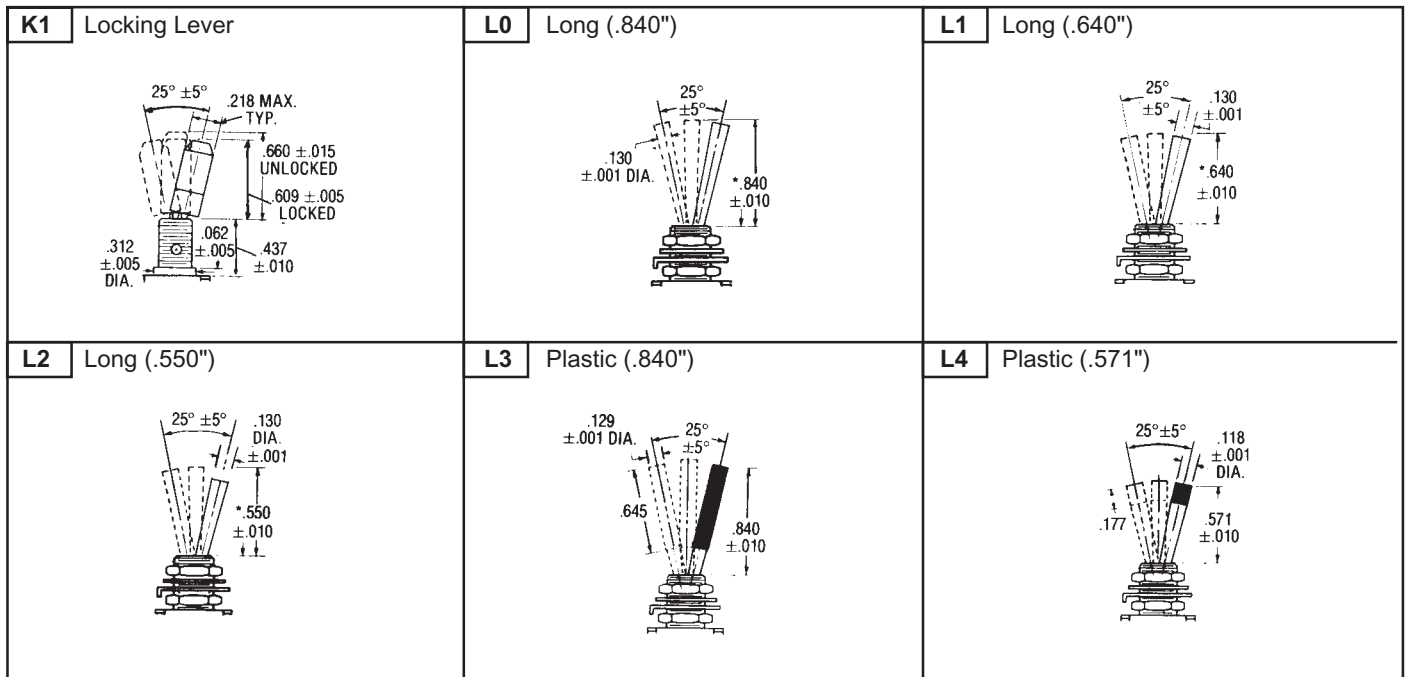
**Hardware** — See page 55-57.

**Toggle Switches — Base Dimensions and Lever Options**

**APPROXIMATE BASE DIMENSIONS**



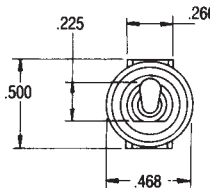
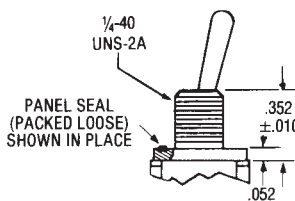
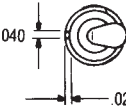
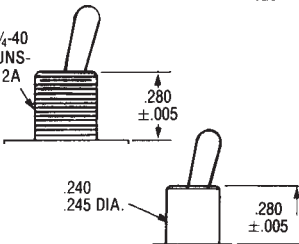
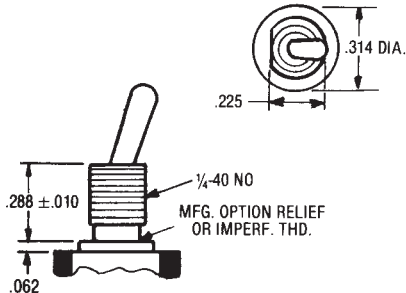
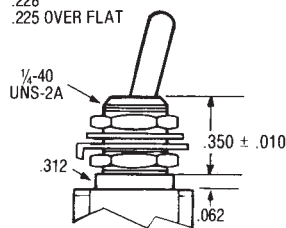
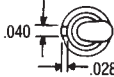
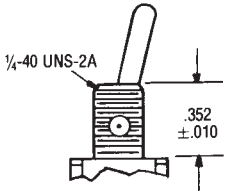
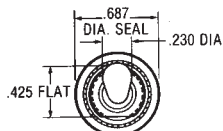
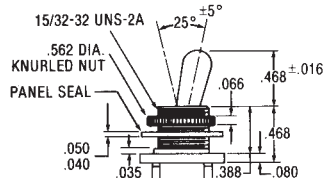
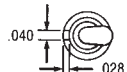
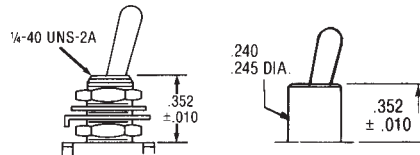
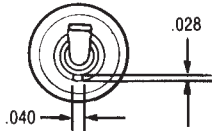
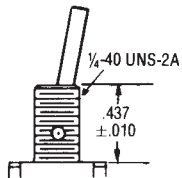
**TOGGLE LEVER OPTIONS**



**Toggle Lever Options — Contd.**

|                               |                               |                               |                               |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| <b>M</b> Short (.200")<br>    | <b>P1</b> Flatted (.840")<br> | <b>P3</b> Flatted (.448")<br> | <b>P4</b> Flatted (.250")<br> |
| <b>S</b> Std. Bat (.410")<br> | <b>T</b> Large Toggle<br>     | <b>T1</b> Large Toggle<br>    |                               |

**BUSHING OPTIONS**

|                                                                                                                                                                                                          |                                         |                                                                                                                                                                          |                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| <b>CW</b>                                                                                                                                                                                                | Splashproof Sealed Lever and Panel Seal | <b>D D9</b>                                                                                                                                                              | Threaded Smooth (No Keyway)                             |
| <p><b>CW</b> = Flatted bushing</p>   |                                         |   |                                                         |
| <b>H</b>                                                                                                                                                                                                 | High Torque Flatted with Shoulder       | <b>H3</b>                                                                                                                                                                | High Torque                                             |
|                                                                                                                       |                                         |                                                                                       |                                                         |
| <b>P</b>                                                                                                                                                                                                 | Anti-Rotation                           |                                                                                                                                                                          |                                                         |
|                                |                                         |                                                                                                                                                                          |                                                         |
| <b>TW</b>                                                                                                                                                                                                | Splashproof Sealed Lever and Panel Seal | <b>OX Y Y9</b>                                                                                                                                                           | Threaded with Lever Seal<br>Threaded Smooth (No Keyway) |
|                                    |                                         |    |                                                         |
| <b>Y5</b>                                                                                                                                                                                                | Long Bushing (.437")                    |                                                                                                                                                                          |                                                         |
|                                |                                         |                                                                                                                                                                          |                                                         |

**K** Refer to K1 lever drawing for dimensions.

**T&TX** Refer to T or T1 lever drawing for dimensions.

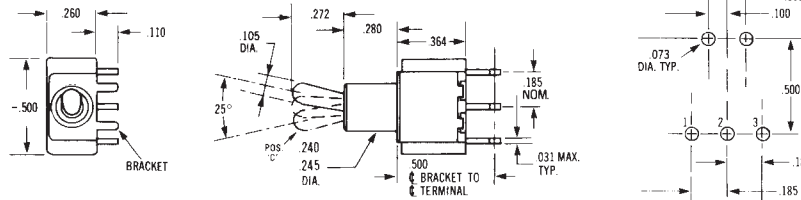
Note: For hardware refer to pages 55-57.

| C Printed CIRCUIT | W Wire-Wrap | W1 Wire-Wrap | W3 Wire-Wrap | W4 Wire-Wrap | Z STANDARD | Z3 Quick CONNECT                                                                                                                                       |
|-------------------|-------------|--------------|--------------|--------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |             |              |              |              |            | <p>Mating Receptacle from<br/>AMP SPECIAL IND.,<br/>P.O. Box 984, Paoli,<br/>Pa. 19301 Amp P/N<br/>single piece 61454<br/>series, strip from 60900</p> |

NOTE: Wire-Wrap is a registered trademark of the Gardner-Denver Company.

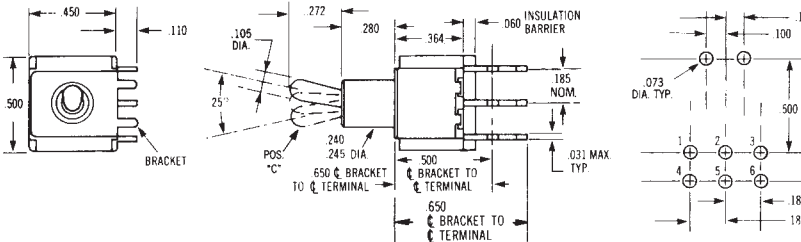
**TERMINATION/MOUNTING OPTIONS**

**A**



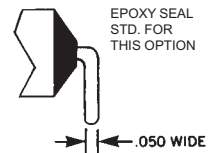
**One Pole**

**A**

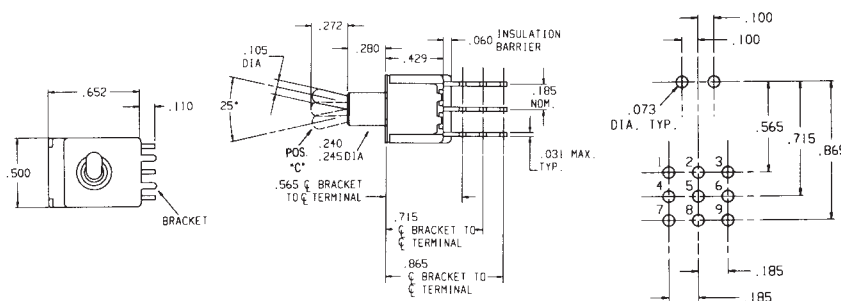


**Two Pole**

**Right Angle P.C. Terminal**

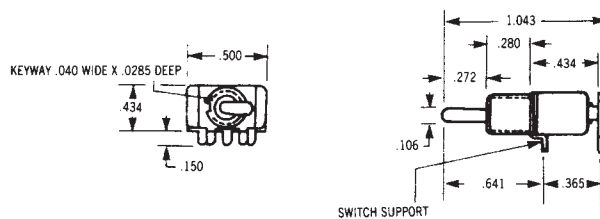


**A**



**Three Pole**

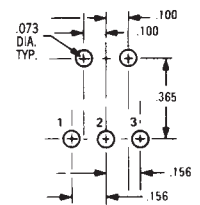
**R**



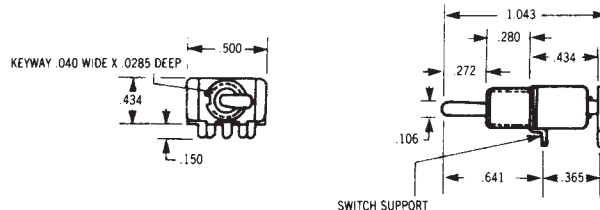
**One Pole**



Contacts  
Make on  
Opposite Side  
Toggle  
Thrown



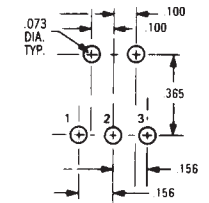
**R2**



**One Pole**

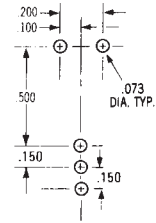
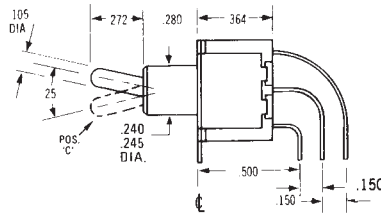
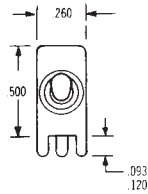


Contacts  
Make on  
Opposite Side  
Toggle  
Thrown



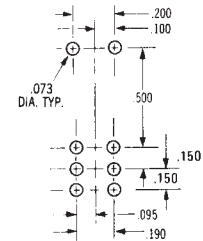
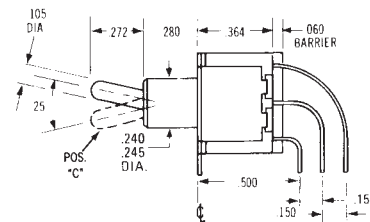
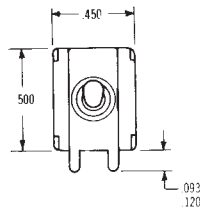
## Termination/Mounting Options

|            |                                           |
|------------|-------------------------------------------|
| <b>AV1</b> | w/.100" terminal spacing                  |
| <b>AV2</b> | w/.150" terminal spacing (pictured below) |



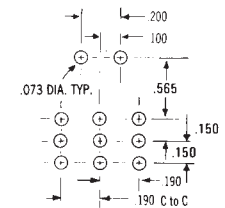
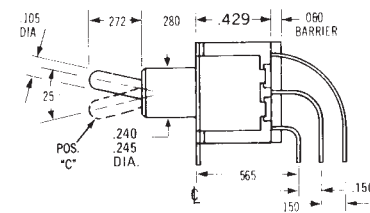
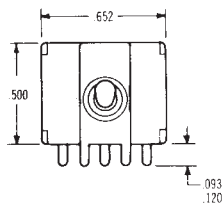
**ONE POLE** Epoxy sealed P.C. terminals are supplied as standard for these options.

|            |                                           |
|------------|-------------------------------------------|
| <b>AV1</b> | w/.100" terminal spacing                  |
| <b>AV2</b> | w/.150" terminal spacing (pictured below) |



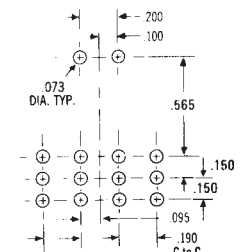
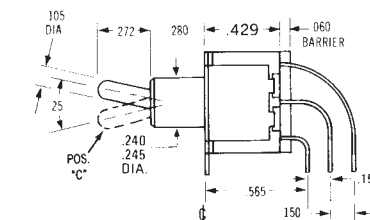
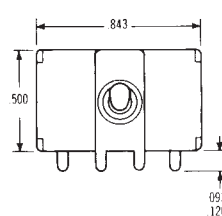
**TWO POLE** Epoxy sealed P.C. terminals are supplied as standard for these options.

|            |                                           |
|------------|-------------------------------------------|
| <b>AV</b>  | w/.100" terminal spacing                  |
| <b>AV2</b> | w/.150" terminal spacing (pictured below) |



**THREE POLE** Epoxy sealed P.C. terminals are supplied as standard for these options.

|            |                                           |
|------------|-------------------------------------------|
| <b>AV</b>  | w/.100" terminal spacing                  |
| <b>AV2</b> | w/.150" terminal spacing (pictured below) |



**FOUR POLE** Epoxy sealed P.C. terminals are supplied as standard for these options.

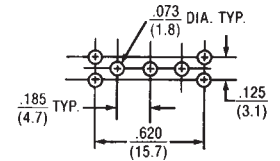
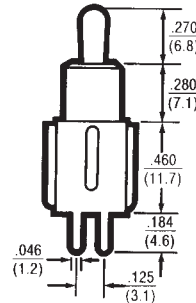
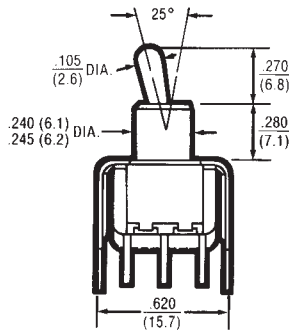
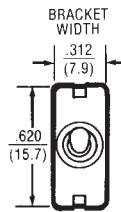
**V30**



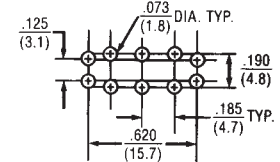
ONE POLE



TWO POLE



1 Pole P.C. Mounting



2 Pole P.C. Mounting

**EPOXY SEALED P.C. TERMINALS ARE SUPPLIED AS STANDARD FOR THESE OPTIONS**

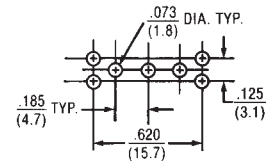
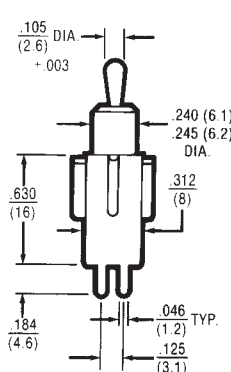
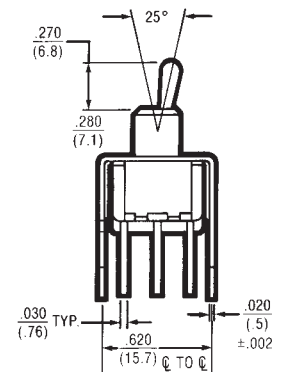
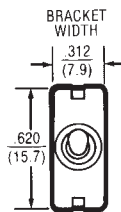
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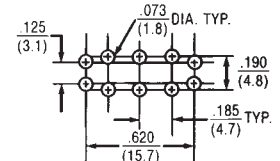
ONE POLE



TWO POLE



1 Pole P.C. Mounting



2 Pole P.C. Mounting

**EPOXY SEALED P.C. TERMINALS ARE SUPPLIED AS STANDARD FOR THESE OPTIONS**

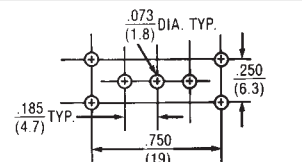
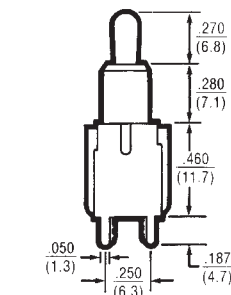
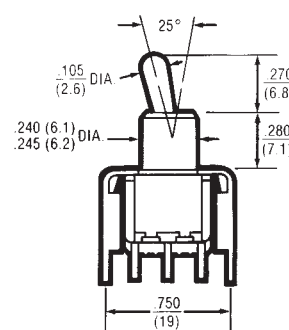
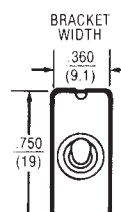
**V60**



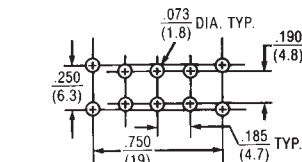
ONE POLE



TWO POLE



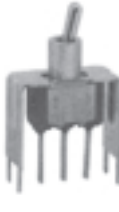
1 Pole P.C. Mounting



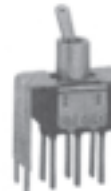
2 Pole P.C. Mounting

**EPOXY SEALED P.C. TERMINALS ARE SUPPLIED AS STANDARD FOR THESE OPTIONS**

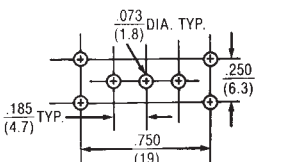
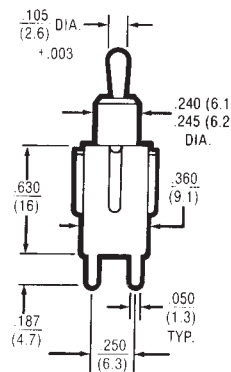
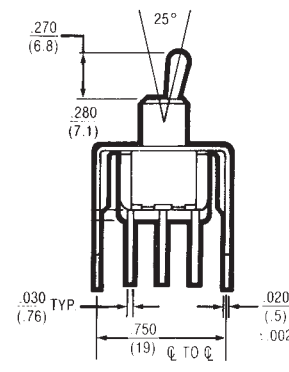
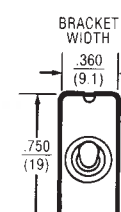
**V70**



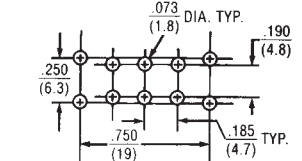
ONE POLE



TWO POLE



1 Pole P.C. Mounting



2 Pole P.C. Mounting

**EPOXY SEALED P.C. TERMINALS ARE SUPPLIED AS STANDARD FOR THESE OPTIONS**