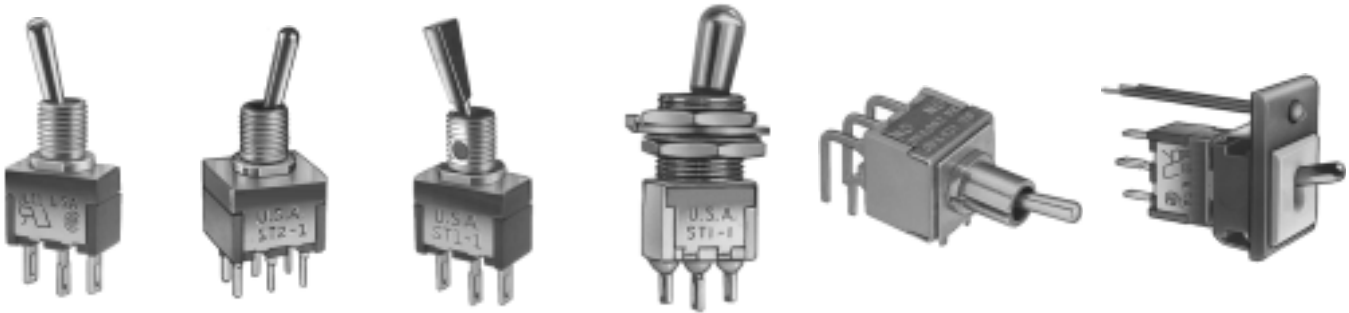


# ST SERIES - MINIATURE TOGGLE SWITCHES

K



## FEATURES

- Dry circuit through power ratings .
- Ultra-rugged construction SPDT & DPDT models with numerous options.
- Panel, panel & p.c. and p.c. mounting models, lighted and unlighted.

## SPECIFICATIONS

|                                           |                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contact ratings (resistive loads):</b> | (Q) power models - coin silver: 6 Amps at 125 VAC, 3 Amps at 250 VAC or 7 Amps at 30 VDC.<br>(B) dry circuit models - gold over nickel over brass: 0.4 VA max. at 20 V max.<br>UL models - coin silver: 6 Amps at 125 VAC or 3 Amps at 250 VAC (75% power factor). UL file no. E66367. CSA models - coin silver: same ratings as UL models. CSA file no. LR54592-1. |
| <b>Initial contact resistance:</b>        | 3 milliohms max. at 3 VDC, 0.1 Amp.                                                                                                                                                                                                                                                                                                                                 |
| <b>Insulation resistance:</b>             | Greater than 200,000 megohms between terminals & case ground.                                                                                                                                                                                                                                                                                                       |
| <b>Dielectric strength:</b>               | Greater than 2000 VAC for 1 minute between terminals & case ground.                                                                                                                                                                                                                                                                                                 |
| <b>Electrical life (resistive loads):</b> | 100,000 cycles min. for ST1-1 & ST2-1. Other models, 40,000 cycles min.                                                                                                                                                                                                                                                                                             |
| <b>Operating temperature range:</b>       | -30°C to +85°C                                                                                                                                                                                                                                                                                                                                                      |

## MATERIALS

|                                  |                                                                                                                                                                                                                                                                          |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contacts:</b>                 | Coin silver for power, UL & CSA models. Gold over nickel over brass for dry circuit models.                                                                                                                                                                              |
| <b>Actuator:</b>                 | Brass, bright nickel or chrome plated.                                                                                                                                                                                                                                   |
| <b>Bushing:</b>                  | Nickel plated brass                                                                                                                                                                                                                                                      |
| <b>Strap:</b>                    | Stainless steel                                                                                                                                                                                                                                                          |
| <b>Case:</b>                     | DAP, color blue                                                                                                                                                                                                                                                          |
| <b>Terminal seal:</b>            | Epoxy (optional)                                                                                                                                                                                                                                                         |
| <b>Support bracket:</b>          | Brass or steel, tin plated                                                                                                                                                                                                                                               |
| <b>Spring mounting bracket:</b>  | Stainless steel                                                                                                                                                                                                                                                          |
| <b>Bezel &amp; bezel insert:</b> | Nylon. Available in black, red & white. Consult factory for other colors.                                                                                                                                                                                                |
| <b>Hardware:</b>                 | See 'Miscellaneous' section.                                                                                                                                                                                                                                             |
| <b>LED:</b>                      | Intensity: 2.0 mcd at 10 mA. Forward voltage: 2.0V (3.0V max.). Max. continuous forward current: 15 mA for red, 30 mA for green & 20 mA for yellow. Red is standard. Yellow & green are optional. Specifications are subject to change without notice - consult factory. |

## AGENCY RECOGNITION



UL, & CSA. Marking: Switches ordered by UL model number are supplied with recognition marking. Switches ordered by UL model no. and with 'CSA' added at end of model no. are supplied with both recognitions marked.

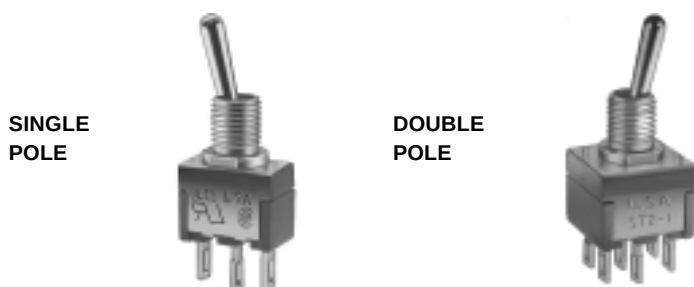
## ABOUT THIS SERIES

The material in this series is organized in the following sequence:

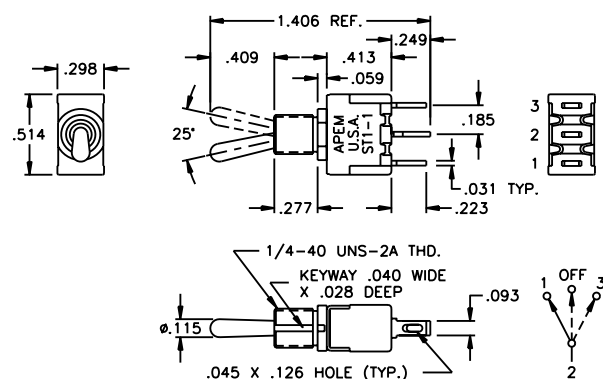
- Completely specified switch models
- Miscellaneous
- 'build your own switch' order format
- Option drawings & information
- Panel cut-outs

## ST SERIES - MINIATURE TOGGLE SWITCHES

## Solder lug terminals - panel mounting

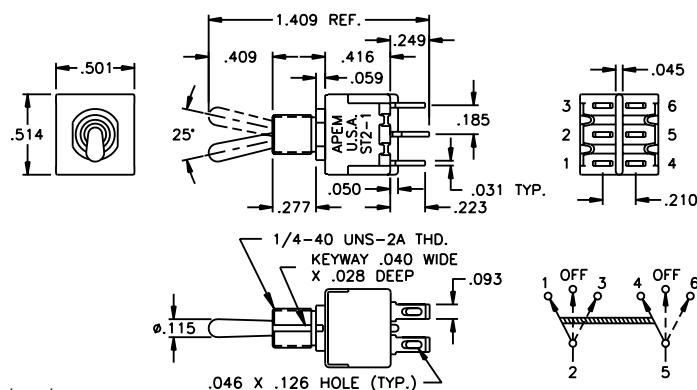


|             | POWER CKT.<br>MODEL NO.           | UL MODEL NO. | USA marking on opposite side                                                        |                                                                                     |                                                                                     |
|-------------|-----------------------------------|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|             |                                   |              |  |  |  |
| Sing'l pole | ST1-1KMZQ                         | UL11KMZQ     | ON                                                                                  | NONE                                                                                | ON                                                                                  |
|             | ST1-2KMZQ                         | UL12KMZQ     | ON                                                                                  | OFF                                                                                 | ON                                                                                  |
|             | ST1-4KMZQ                         | UL14KMZQ     | ON                                                                                  | OFF                                                                                 | MOM                                                                                 |
| Double pole | ST2-1KMZQ                         | UL21KMZQ     | ON                                                                                  | NONE                                                                                | ON                                                                                  |
|             | ST2-3KMZQ                         | UL23KMZQ     | ON                                                                                  | OFF                                                                                 | ON                                                                                  |
|             | ST2-4KMZQ                         | UL24KMZQ     | ON                                                                                  | OFF                                                                                 | MOM                                                                                 |
|             | ST2-6KMZQ                         | UL26KMZQ     | ON                                                                                  | ON                                                                                  | ON                                                                                  |
|             | ST2-7KMZQ                         | UL27KMZQ     | ON                                                                                  | ON                                                                                  | MOM                                                                                 |
|             | ST2-8KMZQ                         | UL28KMZQ     | MOM                                                                                 | ON                                                                                  | MOM                                                                                 |
|             | Terminals connected (-6, -7 & -8) |              | 1-2,<br>4-5                                                                         | 1-2,<br>5-6                                                                         | 2-3,<br>5-6                                                                         |



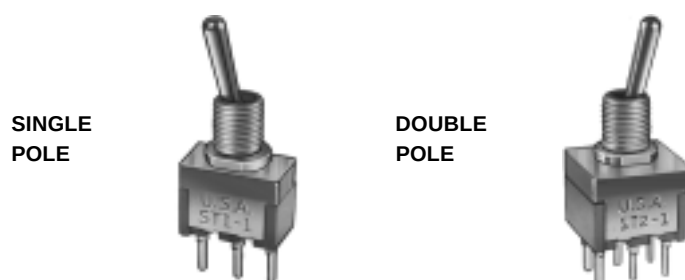
### SINGLE POLE

Terminal numbers  
for reference only

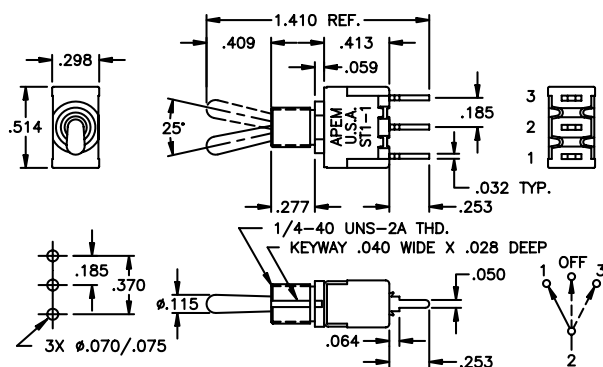


## DOUBLE POLE

## Straight p.c. terminals - panel mounting

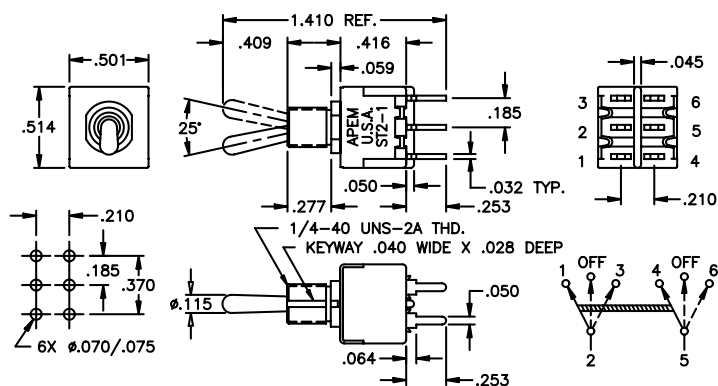


|                                   | POWER CKT.<br>MODEL NO. | UL MODEL NO. | USA marking on opposite side                                                          |                                                                                       |                                                                                       |
|-----------------------------------|-------------------------|--------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                   |                         |              |  |  |  |
| Sing'l pole                       | ST1-1KMCB               | UL11KMCQ     | ON                                                                                    | NONE                                                                                  | ON                                                                                    |
|                                   | ST1-2KMCB               | UL12KMCQ     | ON                                                                                    | OFF                                                                                   | ON                                                                                    |
|                                   | ST1-4KMCB               | UL14KMCQ     | ON                                                                                    | OFF                                                                                   | MOM                                                                                   |
| Double pole                       | ST2-1KMCB               | UL21KMCQ     | ON                                                                                    | NONE                                                                                  | ON                                                                                    |
|                                   | ST2-2KMCB               | UL22KMCQ     | ON                                                                                    | OFF                                                                                   | ON                                                                                    |
|                                   | ST2-4KMCB               | UL24KMCQ     | ON                                                                                    | OFF                                                                                   | MOM                                                                                   |
|                                   | ST2-6KMCB               | UL26KMCQ     | ON                                                                                    | ON                                                                                    | ON                                                                                    |
|                                   | ST2-7KMCB               | UL27KMCQ     | ON                                                                                    | ON                                                                                    | MOM                                                                                   |
|                                   | ST2-8KMCB               | UL28KMCQ     | MOM                                                                                   | ON                                                                                    | MOM                                                                                   |
| Terminals connected (-6, -7 & -8) |                         |              | 1-2,<br>4-5                                                                           | 1-2,<br>5-6                                                                           | 2-3,<br>5-6                                                                           |



## SINGLE POLE

Terminal numbers  
for reference only



## DOUBLE POLE

# ST SERIES - MINIATURE TOGGLE SWITCHES

K

## Flatted actuator - panel mounting

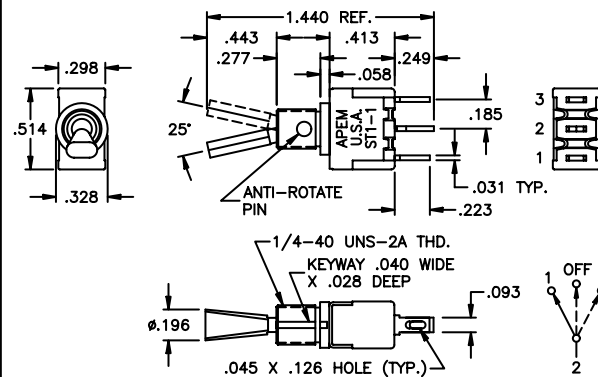
SINGLE POLE



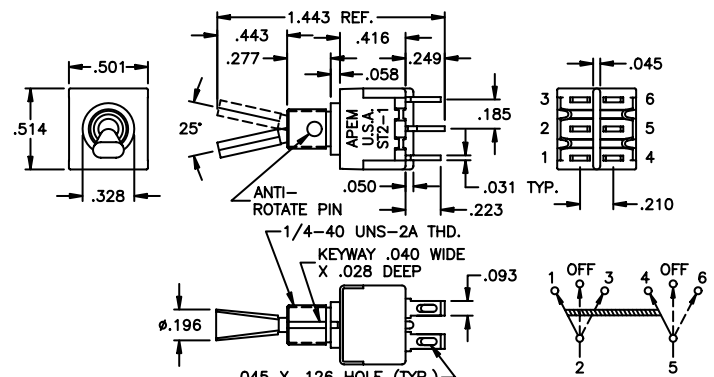
DOUBLE POLE



|             | POWER CKT. MODEL NO.              | UL MODEL NO. | USA marking on opposite side |          |          |
|-------------|-----------------------------------|--------------|------------------------------|----------|----------|
| Sing'l pole | ST1-1F1MZQ                        | UL11F1MZQ    | ON                           | NONE     | ON       |
|             | ST1-2F1MZQ                        | UL12F1MZQ    | ON                           | OFF      | ON       |
|             | ST1-4F1MZQ                        | UL14F1MZQ    | ON                           | OFF      | MOM      |
| Double pole | ST2-1F1MZQ                        | UL21F1MZQ    | ON                           | NONE     | ON       |
|             | ST2-2F1MZQ                        | UL22F1MZQ    | ON                           | OFF      | ON       |
|             | ST2-4F1MZQ                        | UL24F1MZQ    | ON                           | OFF      | MOM      |
|             | ST2-6F1MZQ                        | UL26F1MZQ    | ON                           | ON       | ON       |
|             | ST2-7F1MZQ                        | UL27F1MZQ    | ON                           | ON       | MOM      |
|             | ST2-8F1MZQ                        | UL28F1MZQ    | MOM                          | ON       | MOM      |
|             | Terminals connected (-6, -7 & -8) |              | 1-2, 4-5                     | 1-2, 5-6 | 2-3, 5-6 |



Terminal numbers for reference only



SINGLE POLE

DOUBLE POLE

## Splashproof bushing - panel mounting

An 'o'-ring placed internally between the actuator and the bushing, and a gasket placed externally between the bushing flange and mounting panel provides static protection from 3.3 ft. (1 meter) of water for 30 minutes.

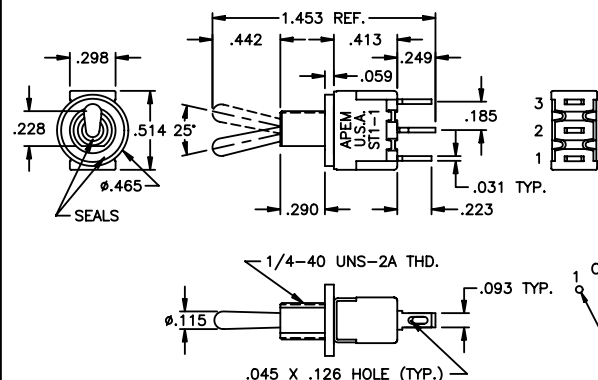
SINGLE POLE



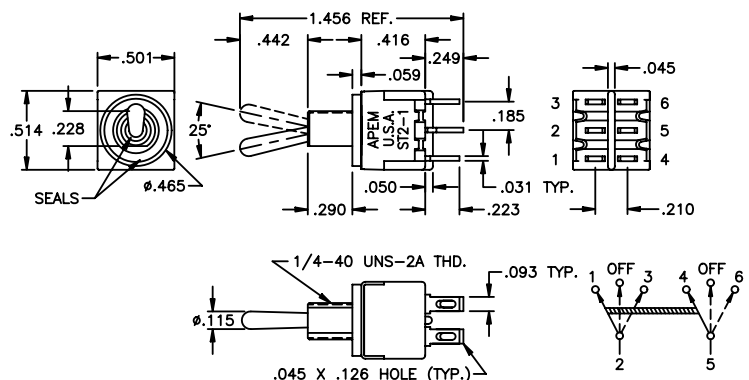
DOUBLE POLE



|             | POWER CKT. MODEL NO.              | UL MODEL NO. | USA marking on opposite side |          |          |
|-------------|-----------------------------------|--------------|------------------------------|----------|----------|
| Sing'l pole | ST1-1KHZQ                         | UL11KHZQ     | ON                           | NONE     | ON       |
|             | ST1-2KHZQ                         | UL12KHZQ     | ON                           | OFF      | ON       |
|             | ST1-4KHZQ                         | UL14KHZQ     | ON                           | OFF      | MOM      |
| Double pole | ST2-1KHZQ                         | UL21KHZQ     | ON                           | NONE     | ON       |
|             | ST2-2KHZQ                         | UL22KHZQ     | ON                           | OFF      | ON       |
|             | ST2-4KHZQ                         | UL24KHZQ     | ON                           | OFF      | MOM      |
|             | ST2-6KHZQ                         | UL26KHZQ     | ON                           | ON       | ON       |
|             | ST2-7KHZQ                         | UL27KHZQ     | ON                           | ON       | MOM      |
|             | ST2-8KHZQ                         | UL28KHZQ     | MOM                          | ON       | MOM      |
|             | Terminals connected (-6, -7 & -8) |              | 1-2, 4-5                     | 1-2, 5-6 | 2-3, 5-6 |



Terminal numbers for reference only



SINGLE POLE

DOUBLE POLE

# ST SERIES - MINIATURE TOGGLE SWITCHES

## 15/32" threaded bushing - panel mounting

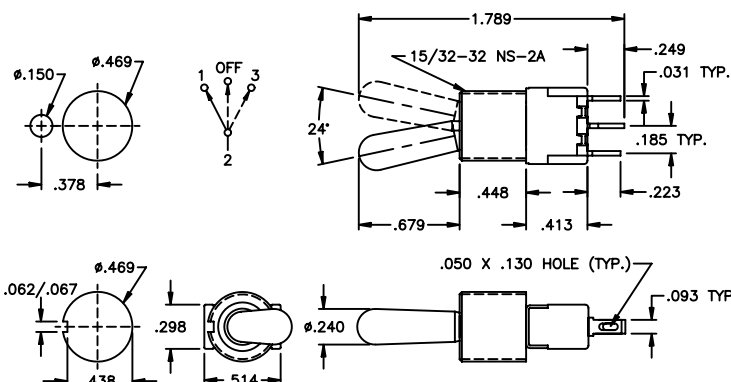
**SINGLE  
POLE  
WITH T1  
ACTUATOR**



**DOUBLE  
POLE  
WITH T2  
ACTUATOR**

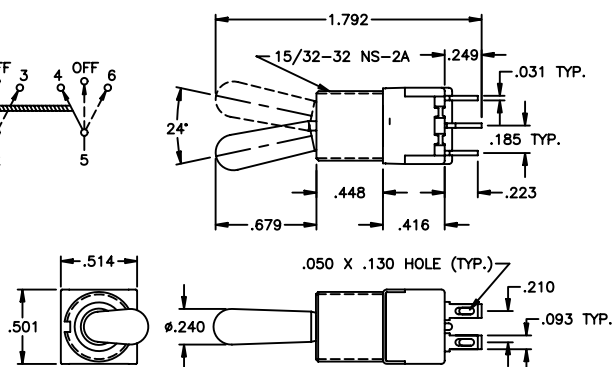


|                                   | POWER CKT.<br>MODEL NO. | UL MODEL NO. | USA marking on opposite side |          |          |
|-----------------------------------|-------------------------|--------------|------------------------------|----------|----------|
| Single pole                       | ST1-1T1M4ZQ             | UL11T1M4ZQ   | ON                           | NONE     | ON       |
|                                   | ST1-2T1M4ZQ             | UL12T1M4ZQ   | ON                           | OFF      | ON       |
|                                   | ST1-4T1M4ZQ             | UL14T1M4ZQ   | ON                           | OFF      | MOM      |
| Double pole                       | ST2-1T1M4ZQ             | UL21T1M4ZQ   | ON                           | NONE     | ON       |
|                                   | ST2-2T1M4ZQ             | UL22T1M4ZQ   | ON                           | OFF      | ON       |
|                                   | ST2-4T1M4ZQ             | UL24T1M4ZQ   | ON                           | OFF      | MOM      |
|                                   | ST2-6T1M4ZQ             | UL26T1M4ZQ   | ON                           | ON       | ON       |
|                                   | ST2-7T1M4ZQ             | UL27T1M4ZQ   | ON                           | ON       | MOM      |
|                                   | ST2-8T1M4ZQ             | UL28T1M4ZQ   | MOM                          | ON       | MOM      |
| Terminals connected (-6, -7 & -8) |                         |              | 1-2, 4-5                     | 1-2, 5-6 | 2-3, 5-6 |



**SINGLE POLE**

Terminal numbers  
for reference only



**DOUBLE POLE**

## Straight p.c. terminals with bracket - p.c. mounting

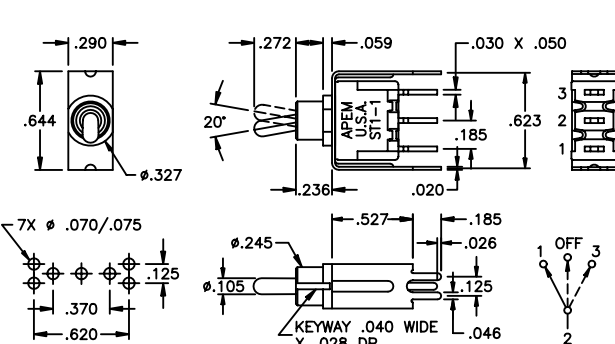
**SINGLE  
POLE**



**DOUBLE  
POLE**

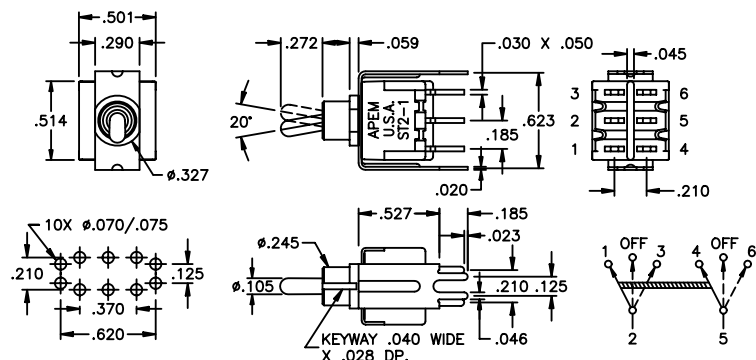


|                                   | POWER CKT.<br>MODEL NO. | UL MODEL NO. | USA marking on opposite side |          |          |
|-----------------------------------|-------------------------|--------------|------------------------------|----------|----------|
| Single pole                       | ST1-1L3S3V30B           | UL11L3S3V30Q | ON                           | NONE     | ON       |
|                                   | ST1-2L3S3V30B           | UL12L3S3V30Q | ON                           | OFF      | ON       |
|                                   | ST1-4L3S3V30B           | UL14L3S3V30Q | ON                           | OFF      | MOM      |
| Double pole                       | ST2-1L3S3V30B           | UL21L3S3V30Q | ON                           | NONE     | ON       |
|                                   | ST2-2L3S3V30B           | UL22L3S3V30Q | ON                           | OFF      | ON       |
|                                   | ST2-4L3S3V30B           | UL24L3S3V30Q | ON                           | OFF      | MOM      |
|                                   | ST2-6L3S3V30B           | UL26L3S3V30Q | ON                           | ON       | ON       |
|                                   | ST2-7L3S3V30B           | UL27L3S3V30Q | ON                           | ON       | MOM      |
|                                   | ST2-8L3S3V30B           | UL28L3S3V30Q | MOM                          | ON       | MOM      |
| Terminals connected (-6, -7 & -8) |                         |              | 1-2, 4-5                     | 1-2, 5-6 | 2-3, 5-6 |



**SINGLE POLE**

Terminal numbers  
for reference only



**DOUBLE POLE**

# ST SERIES - MINIATURE TOGGLE SWITCHES

K

## Horizontal right angle p.c. terminals - p.c. mounting

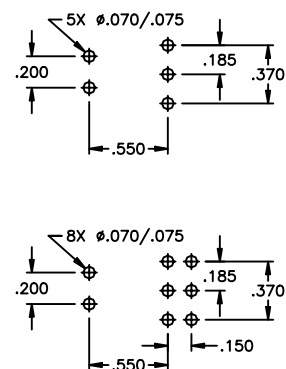
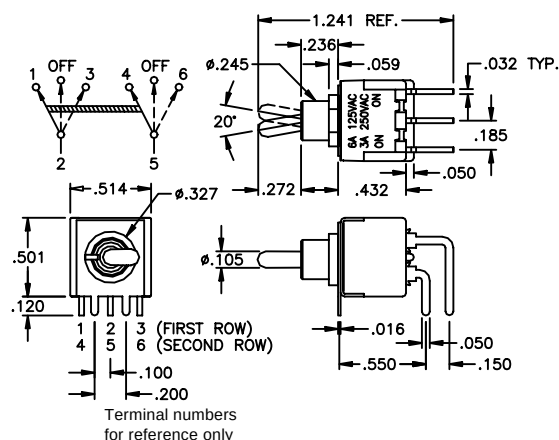
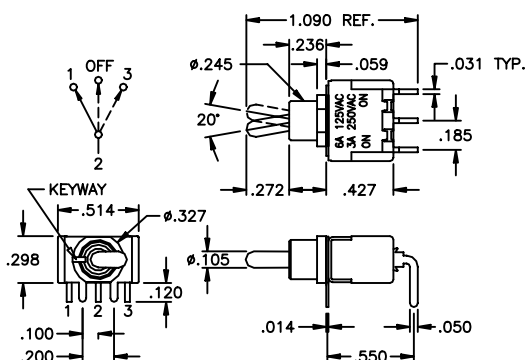
SINGLE  
POLE



DOUBLE  
POLE



|                                   | POWER CKT.<br>MODEL NO. | UL MODEL NO. | USA marking on opposite side |          |          |
|-----------------------------------|-------------------------|--------------|------------------------------|----------|----------|
| Sing'l pole                       | ST1-1L3S3AB             | UL11L3S3AQ   | ON                           | NONE     | ON       |
|                                   | ST1-2L3S3AB             | UL12L3S3AQ   | ON                           | OFF      | ON       |
|                                   | ST1-4L3S3AB             | UL14L3S3AQ   | ON                           | OFF      | MOM      |
| Double pole                       | ST2-1L3S3AB             | UL21L3S3AQ   | ON                           | NONE     | ON       |
|                                   | ST2-2L3S3AB             | UL22L3S3AQ   | ON                           | OFF      | ON       |
|                                   | ST2-4L3S3AB             | UL24L3S3AQ   | ON                           | OFF      | MOM      |
|                                   | ST2-6L3S3AB             | UL26L3S3AQ   | ON                           | ON       | ON       |
|                                   | ST2-7L3S3AB             | UL27L3S3AQ   | ON                           | ON       | MOM      |
|                                   | ST2-8L3S3AB             | UL28L3S3AQ   | MOM                          | ON       | MOM      |
| Terminals connected (-6, -7 & -8) |                         |              | 1-2, 4-5                     | 1-2, 5-6 | 2-3, 5-6 |



SINGLE POLE

DOUBLE POLE

## Vertical right angle p.c. terminals - p.c. mounting

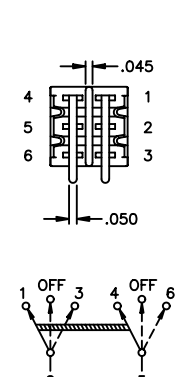
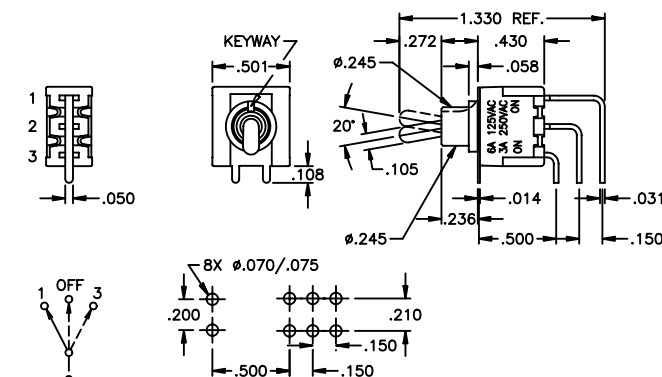
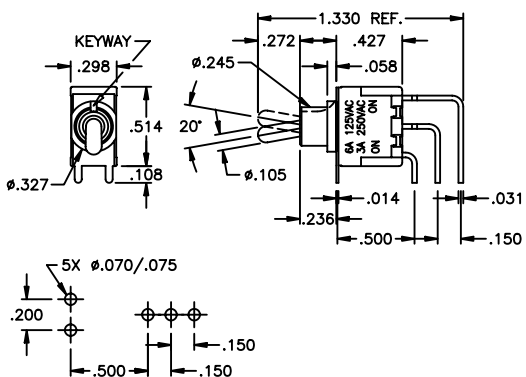
SINGLE  
POLE



DOUBLE  
POLE



|                                   | POWER CKT.<br>MODEL NO. | UL MODEL NO. | USA marking on opposite side |          |          |
|-----------------------------------|-------------------------|--------------|------------------------------|----------|----------|
| Sing'l pole                       | ST1-1L3S3V-1B           | UL11L3S3V-1Q | ON                           | NONE     | ON       |
|                                   | ST1-2L3S3V-1B           | UL12L3S3V-1Q | ON                           | OFF      | ON       |
|                                   | ST1-4L3S3V-1B           | UL14L3S3V-1Q | ON                           | OFF      | MOM      |
| Double pole                       | ST2-1L3S3V-1B           | UL21L3S3V-1Q | ON                           | NONE     | ON       |
|                                   | ST2-2L3S3V-1B           | UL22L3S3V-1Q | ON                           | OFF      | ON       |
|                                   | ST2-4L3S3V-1B           | UL24L3S3V-1Q | ON                           | OFF      | MOM      |
|                                   | ST2-6L3S3V-1B           | UL26L3S3V-1Q | ON                           | ON       | ON       |
|                                   | ST2-7L3S3V-1B           | UL27L3S3V-1Q | ON                           | ON       | MOM      |
|                                   | ST2-8L3S3V-1B           | UL28L3S3V-1Q | MOM                          | ON       | MOM      |
| Terminals connected (-6, -7 & -8) |                         |              | 1-2, 4-5                     | 1-2, 5-6 | 2-3, 5-6 |



SINGLE POLE

DOUBLE POLE

# ST SERIES - MINIATURE TOGGLE SWITCHES

## Snap-in bezel with outboard LED

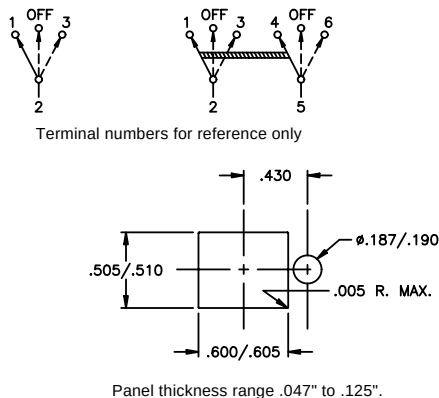
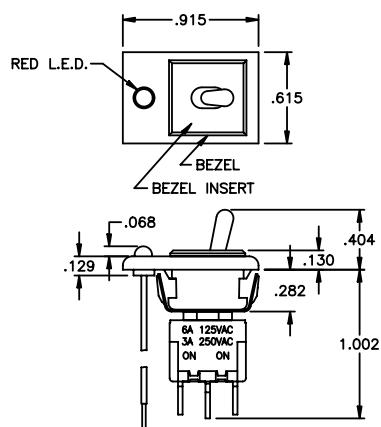
PATENT NO.  
Des. 282,524

UL11KMZQJ6128



|                                   | POWER CKT.<br>MODEL NO. | UL MODEL NO.  | USA marking on opposite side |          |          |
|-----------------------------------|-------------------------|---------------|------------------------------|----------|----------|
| Sing'l pole                       | ST1-1KMZQJ6122          | UL11KMZQJ6122 | ON                           | NONE     | ON       |
|                                   | ST1-2KMZQJ6122          | UL12KMZQJ6122 | ON                           | OFF      | ON       |
|                                   | ST1-4KMZQJ6122          | UL14KMZQJ6122 | ON                           | OFF      | MOM      |
| Double pole                       | ST2-1KMZQJ6122          | UL21KMZQJ6122 | ON                           | NONE     | ON       |
|                                   | ST2-2KMZQJ6122          | UL22KMZQJ6122 | ON                           | OFF      | ON       |
|                                   | ST2-4KMZQJ6122          | UL24KMZQJ6122 | ON                           | OFF      | MOM      |
|                                   | ST2-6KMZQJ6122          | UL26KMZQJ6122 | ON                           | ON       | ON       |
|                                   | ST2-7KMZQJ6122          | UL27KMZQJ6122 | ON                           | ON       | MOM      |
|                                   | ST2-8KMZQJ6122          | UL28KMZQJ6122 | MOM                          | ON       | MOM      |
| Terminals connected (-6, -7 & -8) |                         |               | 1-2, 4-5                     | 1-2, 5-6 | 2-3, 5-6 |

Above models have black bezel and insert.



## Snap-in bezel with red, 1 or 2 inboard LEDs

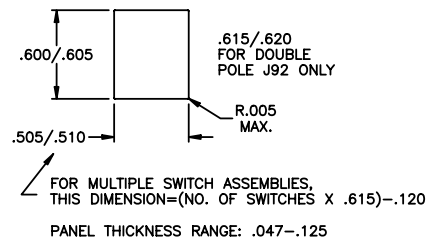
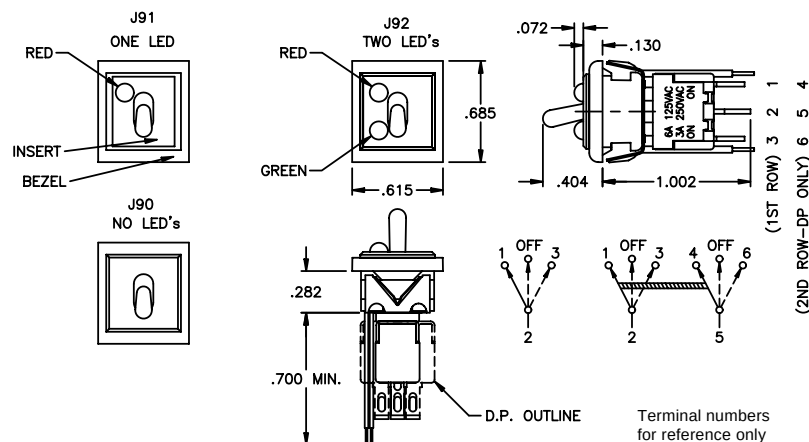
PATENT NO.  
Des. 282,524

ST1-1KMZQJ9128



|                                   | POWER CKT.<br>MODEL NO. | UL MODEL NO.  | USA marking on opposite side |          |          |
|-----------------------------------|-------------------------|---------------|------------------------------|----------|----------|
| Sing'l pole                       | ST1-1KMZQJ9122          | UL11KMZQJ9122 | ON                           | NONE     | ON       |
|                                   | ST1-2KMZQJ9122          | UL12KMZQJ9122 | ON                           | OFF      | ON       |
|                                   | ST1-4KMZQJ9122          | UL14KMZQJ9122 | ON                           | OFF      | MOM      |
| Double pole                       | ST2-1KMZQJ9122          | UL21KMZQJ9122 | ON                           | NONE     | ON       |
|                                   | ST2-2KMZQJ9122          | UL22KMZQJ9122 | ON                           | OFF      | ON       |
|                                   | ST2-4KMZQJ9122          | UL24KMZQJ9122 | ON                           | OFF      | MOM      |
|                                   | ST2-6KMZQJ9122          | UL26KMZQJ9122 | ON                           | ON       | ON       |
|                                   | ST2-7KMZQJ9122          | UL27KMZQJ9122 | ON                           | ON       | MOM      |
|                                   | ST2-8KMZQJ9122          | UL28KMZQJ9122 | MOM                          | ON       | MOM      |
| Terminals connected (-6, -7 & -8) |                         |               | 1-2, 4-5                     | 1-2, 5-6 | 2-3, 5-6 |

Above models have black bezel and insert.



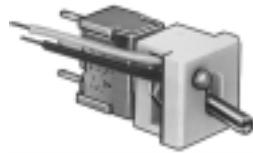
# ST SERIES - MINIATURE TOGGLE SWITCHES

K

## Bezel for p.c. mounted switches with 0, 1 or 2 LEDs

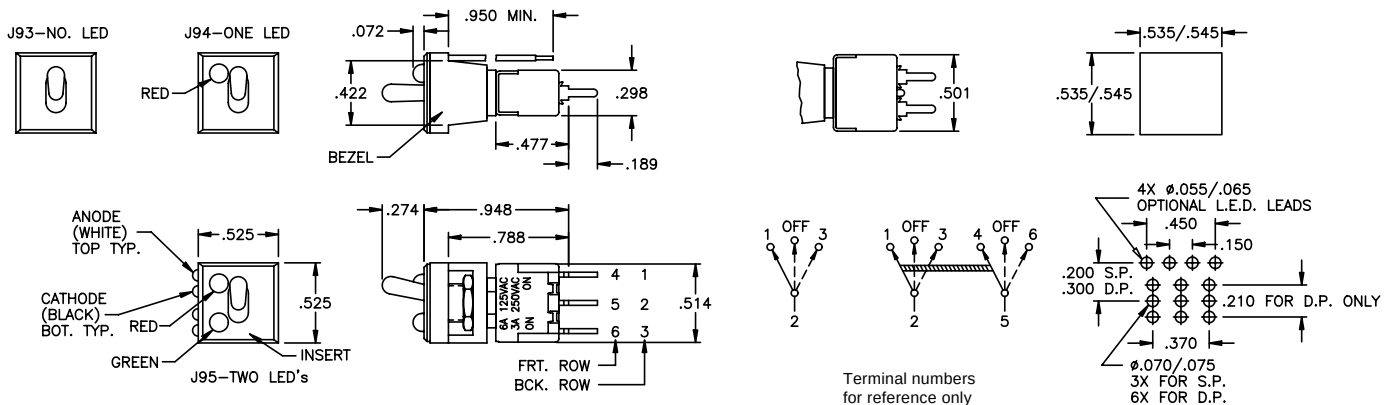
PATENT NO.  
Des. 282,524

ST1-1KMCBJ9488



|                                   | POWER CKT.<br>MODEL NO. | UL MODEL NO.   | USA marking on opposite side |             |             |
|-----------------------------------|-------------------------|----------------|------------------------------|-------------|-------------|
| Sing'l pole                       | ST1-1KMCBJ9422          | UL11KMCCQJ9422 | ON                           | NONE        | ON          |
|                                   | ST1-2KMCBJ9422          | UL12KMCCQJ9422 | ON                           | OFF         | ON          |
|                                   | ST1-4KMCBJ9422          | UL14KMCCQJ9422 | ON                           | OFF         | MOM         |
| Double pole                       | ST2-1KMCBJ9422          | UL21KMCCQJ9422 | ON                           | NONE        | ON          |
|                                   | ST2-2KMCBJ9422          | UL22KMCCQJ9422 | ON                           | OFF         | ON          |
|                                   | ST2-4KMCBJ9422          | UL24KMCCQJ9422 | ON                           | OFF         | MOM         |
|                                   | ST2-6KMCBJ9422          | UL26KMCCQJ9422 | ON                           | ON          | ON          |
|                                   | ST2-7KMCBJ9422          | UL27KMCCQJ9422 | ON                           | ON          | MOM         |
|                                   | ST2-8KMCBJ9422          | UL28KMCCQJ9422 | MOM                          | ON          | MOM         |
| Terminals connected (-6, -7 & -8) |                         |                | 1-2,<br>4-5                  | 1-2,<br>5-6 | 2-3,<br>5-6 |

Above models have black bezel and insert.



## Bezel for p.c. mounted switches with 0, 1 or 2 LEDs

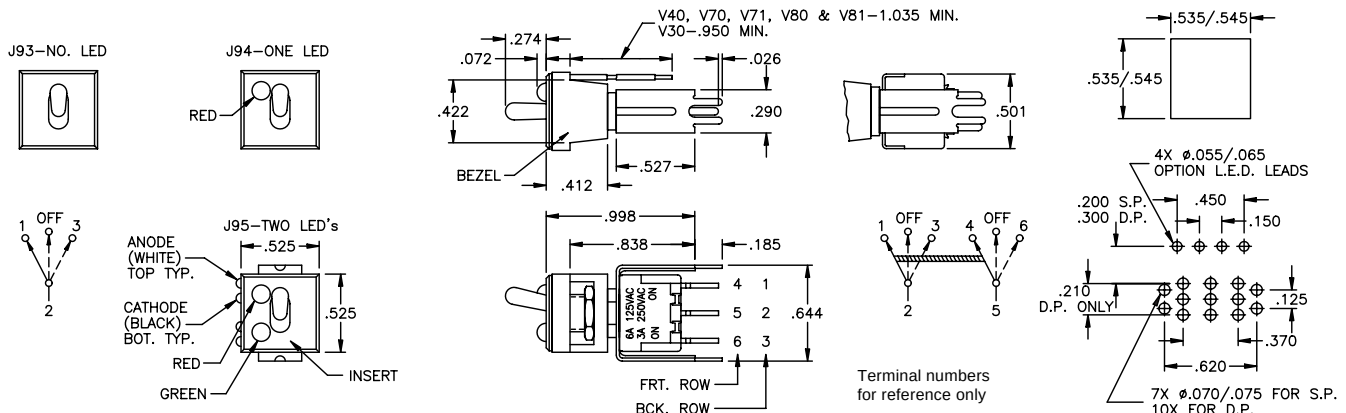
PATENT NO.  
Des. 282,524

ST1-1KMV30QJ9488



|                                   | POWER CKT.<br>MODEL NO. | UL MODEL NO.    | USA marking on opposite side |             |             |
|-----------------------------------|-------------------------|-----------------|------------------------------|-------------|-------------|
| Sing'l pole                       | ST1-1KMV30BJ9422        | UL11KMV30QJ9422 | ON                           | NONE        | ON          |
|                                   | ST1-2KMV30BJ9422        | UL12KMV30QJ9422 | ON                           | OFF         | ON          |
|                                   | ST1-4KMV30BJ9422        | UL14KMV30QJ9422 | ON                           | OFF         | MOM         |
| Double pole                       | ST2-1KMV30BJ9422        | UL21KMV30QJ9422 | ON                           | NONE        | ON          |
|                                   | ST2-2KMV30BJ9422        | UL22KMV30QJ9422 | ON                           | OFF         | ON          |
|                                   | ST2-4KMV30BJ9422        | UL24KMV30QJ9422 | ON                           | OFF         | MOM         |
|                                   | ST2-6KMV30BJ9422        | UL26KMV30QJ9422 | ON                           | ON          | ON          |
|                                   | ST2-7KMV30BJ9422        | UL27KMV30QJ9422 | ON                           | ON          | MOM         |
|                                   | ST2-8KMV30BJ9422        | UL28KMV30QJ9422 | MOM                          | ON          | MOM         |
| Terminals connected (-6, -7 & -8) |                         |                 | 1-2,<br>4-5                  | 1-2,<br>5-6 | 2-3,<br>5-6 |

Above models have black bezel and insert.



# ST SERIES - MINIATURE TOGGLE SWITCHES

## Bezel for right angle p.c. mtd. switches with 0, 1 or 2 LEDs

PATENT NO.  
Des. 282,524

ST1-1KMA-1BJ9488

| Poles | Option | Dim. A | Dim. B    |
|-------|--------|--------|-----------|
| SP    | A      | .148   | .045 max. |
| SP    | A-1    | .164   | .095 max. |
| DP    | A      | .250   | .300 max. |
| DP    | A-1    | .266   | .350 max. |



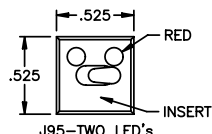
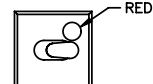
|                                   | POWER CKT.<br>MODEL NO. | UL MODEL NO.    | USA marking on opposite side |          |          |
|-----------------------------------|-------------------------|-----------------|------------------------------|----------|----------|
|                                   |                         |                 | ON                           | NONE     | ON       |
| Sing'l pole                       | ST1-1KMA-1BJ9422        | UL11KMA-1QJ9422 | ON                           | NONE     | ON       |
|                                   | ST1-2KMA-1BJ9422        | UL12KMA-1QJ9422 | ON                           | OFF      | ON       |
|                                   | ST1-4KMA-1BJ9422        | UL14KMA-1QJ9422 | ON                           | OFF      | MOM      |
| Double pole                       | ST2-1KMA-1BJ9422        | UL21KMA-1QJ9422 | ON                           | NONE     | ON       |
|                                   | ST2-2KMA-1BJ9422        | UL22KMA-1QJ9422 | ON                           | OFF      | ON       |
|                                   | ST2-4KMA-1BJ9422        | UL24KMA-1QJ9422 | ON                           | OFF      | MOM      |
|                                   | ST2-6KMA-1BJ9422        | UL26KMA-1QJ9422 | ON                           | ON       | ON       |
|                                   | ST2-7KMA-1BJ9422        | UL27KMA-1QJ9422 | ON                           | ON       | MOM      |
|                                   | ST2-8KMA-1BJ9422        | UL28KMA-1QJ9422 | MOM                          | ON       | MOM      |
| Terminals connected (-6, -7 & -8) |                         |                 | 1-2, 4-5                     | 1-2, 5-6 | 2-3, 5-6 |

Above models have black bezel and insert.

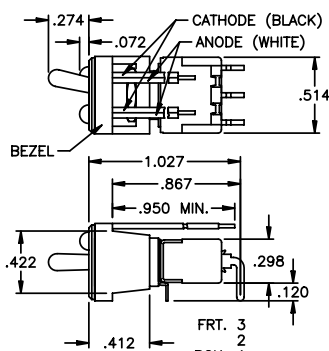
J93—NO. LED



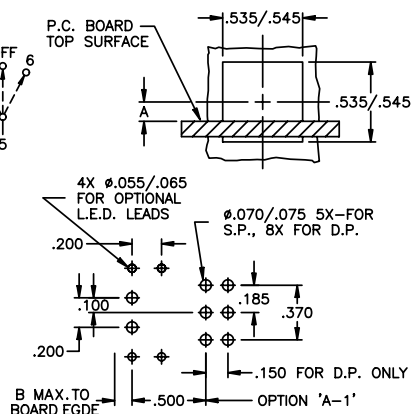
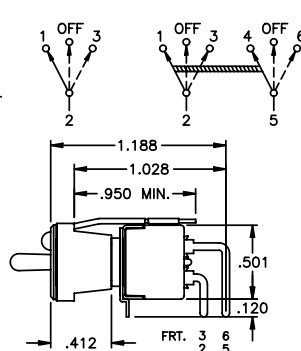
J94—ONE LED



J95—TWO LED's



Terminal numbers  
for reference only



## Bezel for right angle p.c. mtd. switches with 0, 1 or 2 LEDs

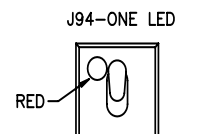
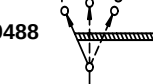
PATENT NO.  
Des. 282,524

ST1-1KMV-1BJ9488

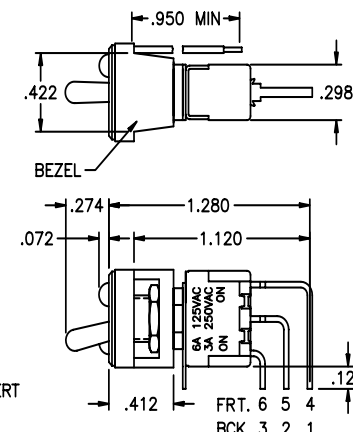
J93—NO. LED



J94—ONE LED



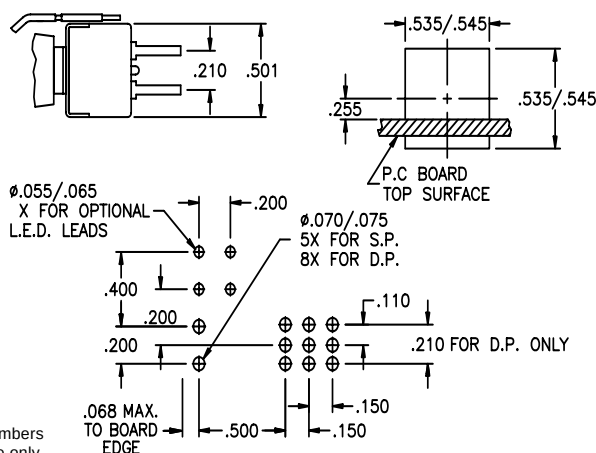
J95—TWO LED's



Terminal numbers  
for reference only

|                                   | POWER CKT.<br>MODEL NO. | UL MODEL NO.    | USA marking on opposite side |          |          |
|-----------------------------------|-------------------------|-----------------|------------------------------|----------|----------|
|                                   |                         |                 | ON                           | NONE     | ON       |
| Sing'l pole                       | ST1-1KMV-1BJ9422        | UL11KMV-1QJ9422 | ON                           | NONE     | ON       |
|                                   | ST1-2KMV-1BJ9422        | UL12KMV-1QJ9422 | ON                           | OFF      | ON       |
|                                   | ST1-4KMV-1BJ9422        | UL14KMV-1QJ9422 | ON                           | OFF      | MOM      |
| Double pole                       | ST2-1KMV-1BJ9422        | UL21KMV-1QJ9422 | ON                           | NONE     | ON       |
|                                   | ST2-2KMV-1BJ9422        | UL22KMV-1QJ9422 | ON                           | OFF      | ON       |
|                                   | ST2-4KMV-1BJ9422        | UL24KMV-1QJ9422 | ON                           | OFF      | MOM      |
|                                   | ST2-6KMV-1BJ9422        | UL26KMV-1QJ9422 | ON                           | ON       | ON       |
|                                   | ST2-7KMV-1BJ9422        | UL27KMV-1QJ9422 | ON                           | ON       | MOM      |
|                                   | ST2-8KMV-1BJ9422        | UL28KMV-1QJ9422 | MOM                          | ON       | MOM      |
| Terminals connected (-6, -7 & -8) |                         |                 | 1-2, 4-5                     | 1-2, 5-6 | 2-3, 5-6 |

Above models have black bezel and insert.





# ST SERIES - MINIATURE TOGGLE SWITCHES

**Additional ordering information:** Commonly ordered models are shown on prior pages with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

## 'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for **Model Structure**, then add **Options** selections for complete model number.

Allowable options are shown below each respective box with brief description - see option dwgs. & info. following.

Note: 'NONE' indicates box may be left empty.

### Model Structure:

| Series                         | Electrical functions                         | Actuators                                           | Bushings                                                       | Terminations                                                                                                                                                                                                           | Contact material                      |
|--------------------------------|----------------------------------------------|-----------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| <input type="text"/>           | <input type="text"/>                         | <input type="text"/>                                | <input type="text"/>                                           | <input type="text"/>                                                                                                                                                                                                   | <input type="text"/>                  |
| Single pole:<br><b>S T 1 -</b> | <b>1</b> ON NONE ON<br><b>2</b> ON OFF ON    | <b>K</b> Standard bat<br><b>F 1</b> Flatted         | <b>M</b> Standard 1/4" thd'd.<br><b>D</b> 'D' flat 1/4" thd'd. | <b>Z</b> Solder lug<br><b>C</b> Printed circuit                                                                                                                                                                        | <b>B</b> Gold<br><b>Q</b> Coin silver |
| S.P. UL model:<br><b>U L 1</b> | <b>4</b> ON OFF MOM<br>Following for DP only | <b>F 2</b> Long flatted<br><b>F 3</b> Short flatted | <b>H</b> Splashproof 1/4" thd'd.<br><b>Y</b> Long 1/4" thd'd.  | <b>W</b> Wirewrap<br><b>W 1</b> Lg. wirewrap                                                                                                                                                                           | <b>G</b> Gold/coin silver             |
| Double pole:<br><b>S T 2 -</b> | <b>6</b> ON ON ON<br><b>7</b> ON ON MOM      | <b>L</b> Long round<br><b>L 1</b> Medium rnd.       | <b>S 2</b> Non-threaded<br><b>S 3</b> Short non-thd'd.         | <b>W 3</b> Sht. wirewrap<br><b>X</b> Extra lg. wirewrap                                                                                                                                                                | <b>N</b> Economy gold                 |
| D.P. UL model:<br><b>U L 2</b> | <b>8</b> MOM ON MOM                          | <b>L 2</b> Short round<br><b>L 3</b> Short round    | <b>M 4</b> 15/32" thd'd.<br><b>M 5</b> M4 with 'o'-ring        | Horiz. right angle p.c. terminals:<br><b>A</b><br><b>A - 1</b><br>Vertical right angle p.c. terminals:<br><b>V</b><br><b>V - 1</b><br><b>V - 2</b><br>Straight p.c. terminals w/brkt.:<br><b>V 3 0</b><br><b>V 4 0</b> | <b>T</b> Economy silver               |

Note: When switch is ordered with a bezel, actuator selection may be **K, L, L1, or L2** and bushing must be **M** only.

### Options:

| Sealing                  | Colored actuator*                                                                              | Colored bushing*         | Bezel & Insert                                                                                                                                                                                                                                                                                                                                       | Bezel color                                                | Insert color                                               | Approvals                |
|--------------------------|------------------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------|--------------------------|
| <input type="text"/>     | <input type="text"/>                                                                           | <input type="text"/>     | <input type="text"/>                                                                                                                                                                                                                                                                                                                                 | <input type="text"/>                                       | <input type="text"/>                                       | <input type="text"/>     |
| (NONE)<br><b>E</b> Epoxy | (NONE)<br><b>2</b> Black<br>* colored actuator and bushing applicable to non-bezel models only | (NONE)<br><b>2</b> Black | (NONE)<br><b>J 6 1</b> Snap-in w/LED<br><b>J 9 0</b> Snap-in no LED<br><b>J 9 1</b> Snap-in w/LED<br><b>J 9 2</b> Snap-in w/2 LEDs<br><b>J 9 3</b> p.c. no LED<br><b>J 9 4</b> p.c. w/LED<br><b>J 9 5</b> p.c. w/2 LEDs<br>Self-keying round hole mt.:<br><b>J 9 6</b> Snap-in no LED<br><b>J 9 7</b> Snap-in w/LED<br><b>J 9 8</b> Snap-in w/2 LEDs | (NONE)<br><b>2</b> Black<br><b>6</b> Red<br><b>8</b> White | (NONE)<br><b>2</b> Black<br><b>6</b> Red<br><b>8</b> White | (NONE)<br><b>/ C S A</b> |

Although most combinations of options are available, some may result in incompatibilities. Consult factory if there is any question.

Example of completely specified model number:  
**UL15KMZQEJ9726/CSA**

### SWITCH BODY

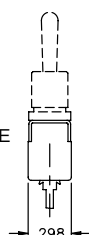
### SIZES WITH

### TERMINAL

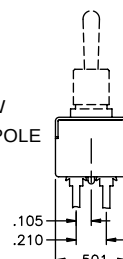
### LOCATION

### DIMENSIONS

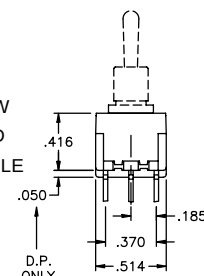
SIDE VIEW  
SINGLE POLE



SIDE VIEW  
DOUBLE POLE



FRONT VIEW  
SINGLE AND  
DOUBLE POLE



# ST SERIES - MINIATURE TOGGLE SWITCHES

K

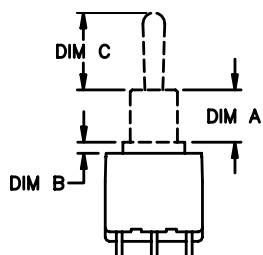
## ACTUATOR OPTIONS

|                                      |                                     |                                      |                                                                                                           |                                                                                                                                                                                                                 |
|--------------------------------------|-------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>L</b><br><br><b>LONG ROUND</b>    | <b>F1</b><br><br><b>FLATTED</b>     | <b>F2</b><br><br><b>LONG FLATTED</b> | <b>F3</b><br><br><b>SHORT FLATTED</b>                                                                     | <b>K (STANDARD)</b><br><br><b>ROUND</b>                                                                                                                                                                         |
| <b>L1</b><br><br><b>MEDIUM ROUND</b> | <b>L2</b><br><br><b>SHORT ROUND</b> | <b>L3</b><br><br><b>SHORT ROUND</b>  | <b>T1 &amp; T2</b><br><small>(FOR M4 &amp; M5 BUSHINGS ONLY)</small><br><br><b>LONG &amp; SHORT ROUND</b> | <b>T3 &amp; T4</b><br><p>Same as T1 &amp; T2 respectively except with positive internal keying and sideways support to provide more ruggedness in harsh applications.</p> <p>Available only with M4 bushing</p> |

## BUSHING OPTIONS

|                                      |                                      |                                           |                                                                                |                                      |
|--------------------------------------|--------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------|
| <b>D</b><br><br><b>THREADED</b>      | <b>H</b><br><br><b>SPLASHPROOF</b>   | <br><b>SEALS</b>                          | <b>M (STANDARD)</b><br><br><b>THREADED</b>                                     | <b>Y</b><br><br><b>LONG THREADED</b> |
| <b>S2</b><br><br><b>NON THREADED</b> | <b>S3</b><br><br><b>NON THREADED</b> | <b>M4 &amp; M5</b><br><br><b>THREADED</b> | <br><b>O' RING</b><br><p>M5 FEATURES 'O'-RING FOR SPLASHPROOF APPLICATIONS</p> |                                      |

### ACTUATOR & BUSHING COMPATIBILITY TABLE WITH DIMENSIONS FOR SELECTIONS



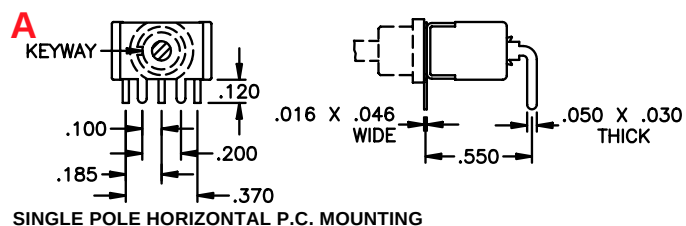
| Bushing Option | Bushing Dims. Dim A | Bushing Dims. Dim B | Actuator length dimension C |      |      |      |      |      |      |      |      |      |
|----------------|---------------------|---------------------|-----------------------------|------|------|------|------|------|------|------|------|------|
|                |                     |                     | F1                          | F2   | F3   | K    | L    | L1   | L2   | L3   | T1   | T2   |
| D              | .277                | .060                | N/A                         | N/A  | N/A  | .410 | .840 | .640 | .270 | .170 | N/A  | N/A  |
| H              | .290                | .060                | N/A                         | N/A  | N/A  | .410 | .840 | .640 | .270 | .170 | N/A  | N/A  |
| M              | .277                | .060                | .450                        | .650 | .250 | .410 | .840 | .640 | .270 | .170 | N/A  | N/A  |
| Y              | .330                | .040                | N/A                         | N/A  | N/A  | .410 | .840 | .640 | .270 | .170 | N/A  | N/A  |
| S2             | .277                | .060                | .450                        | .650 | .250 | .410 | .840 | .640 | .270 | .170 | N/A  | N/A  |
| S3             | .177                | .060                | N/A                         | N/A  | N/A  | .510 | .940 | .740 | .370 | .270 | N/A  | N/A  |
| M4             | .448                | -                   | N/A                         | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  | .460 | .687 |
| M5             | .448                | -                   | N/A                         | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  | .460 | .687 |

N/A - NOT AVAILABLE

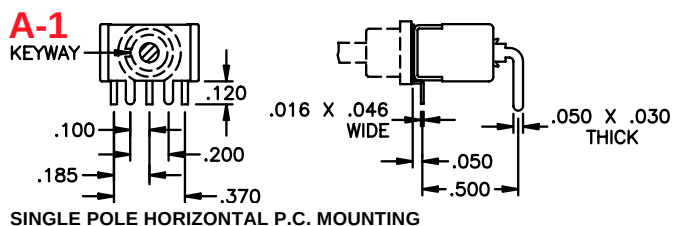
CONSULT FACTORY FOR SPECIAL REQUIREMENTS

## ST SERIES - MINIATURE TOGGLE SWITCHES

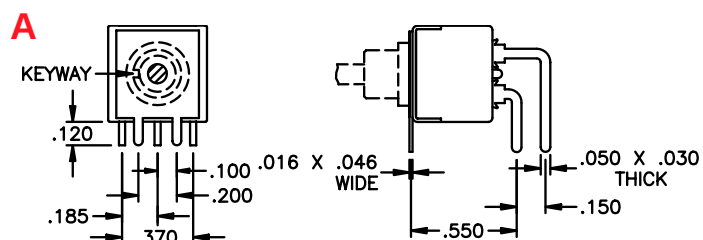
## TERMINATION OPTIONS



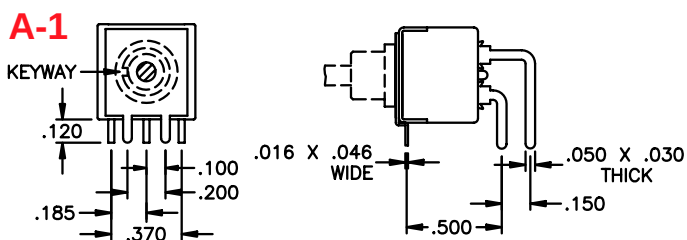
### SINGLE POLE HORIZONTAL P.C. MOUNTING



### SINGLE POLE HORIZONTAL P.C. MOUNTING



### DOUBLE POLE HORIZONTAL P.C. MOUNTING



### DOUBLE POLE HORIZONTAL P.C. MOUNTING

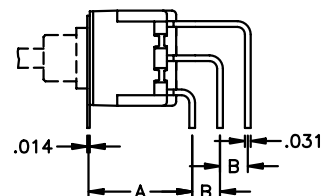
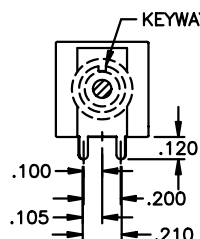
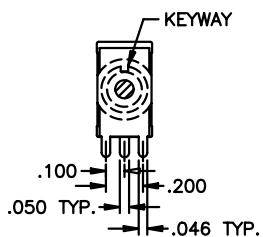
## V, V-1 & V-2

FRONT VIEW  
SINGLE POLE

FRONT VIEW  
DOUBLE POINT

### SIDE VIEW - SINGLE & DOUBLE POLE

| Option | Dim. A | Dim. B |
|--------|--------|--------|
| V      | .550   | .150   |
| V-1    | .500   | .150   |
| V-2    | .500   | .100   |

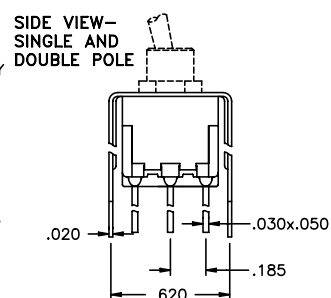
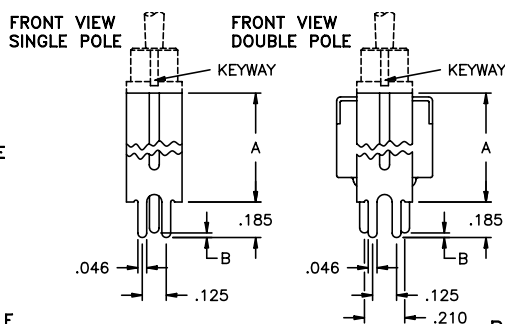
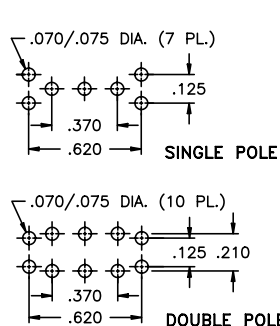


## VERTICAL P.C. MOUNTING

## V30 & V40

### PANEL LAYOUT V30, V31, V40 & V41

| Option | Dim. A | Dim. B |
|--------|--------|--------|
| V30    | .527   | .024   |
| V40    | .647   | .048   |



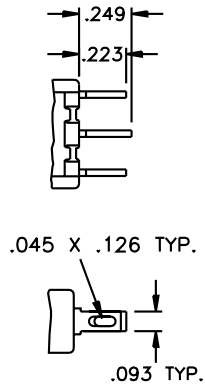
PRINTED CIRCUIT MOUNTING

# ST SERIES - MINIATURE TOGGLE SWITCHES

K

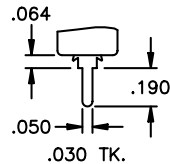
## TERMINATION OPTIONS (CONT'D.)

**Z**



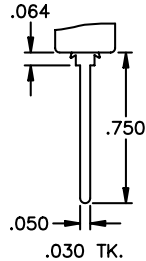
**SOLDER LUG**

**C**



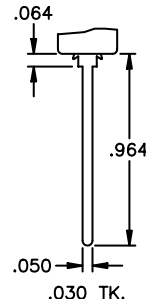
**PRINTED CIRCUIT**

**W**



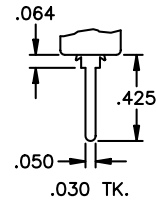
**WIREWRAP**

**W1**



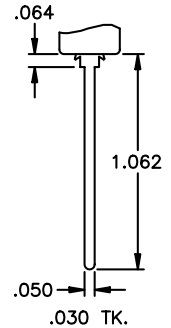
**LONG WIREWRAP**

**W3**



**SHORT WIREWRAP**

**X**



**EXTRA LG. WIREWRAP**

## CONTACT MATERIAL OPTIONS

**B**

Dry circuit - gold over nickel over brass.  
RATING: 0.4 Volt-Amps (VA) max. at 20 V max.  
ELECTRIC LIFE: 100,000 cycles min. (ST1-1 & ST2-1 only - other models 40,000 cycles min.)

**Q**

Power circuit - coin silver.  
RATING: 6 Amps at 125 VAC, 3 Amps at 250 VAC or 7 Amps at 30 VDC (resistive loads).  
ELECTRIC LIFE: 100,000 cycles min. (ST1-1 & ST2-1 only - other models 40,000 cycles min.)

**G**

Dry circuit or power circuit - gold over nickel over coin silver.  
RATINGS & ELECTRIC LIFE: Same as B & Q above - i.e. - can be used in either dry circuit or power circuit, however once used in power circuit, switch cannot be re-used in dry circuit. This option satisfies those customers who have both dry circuit and power circuit requirements, but prefer to inventory only one switch for both.

**N**

Dry circuit - gold over nickel over brass. Note- less gold than B option.  
RATING: 0.4 Volt-Amps (VA) max. at 20 V max.  
ELECTRIC LIFE: 10,000 cycles min. at 13 cycles per minute.

**T**

Power circuit - Silver plate over brass.  
RATING: 3 Amps at 125 VAC or 1.5 Amps at 250 VAC (resistive loads).  
ELECTRIC LIFE: 10,000 cycles min. at 13 cycles per minute.

Solder dipped terminals and custom contact plating available - contact factory.

## UL & CSA OPTIONS

**UL**

For power circuits - coin silver  
RATING: 6 Amps at 125 VAC or 3 Amps at 250 VAC (75% power factor).  
Underwriter Laboratories file no. E66367. To specify, order UL model no. Note - applicable only to terminations with coin silver contacts (Q or G options).

**CSA**

For power circuits - coin silver  
RATING: 6 Amps at 125 VAC or 3 Amps at 250 VAC (75% power factor). Canadian Standards Association file no. LR54592-1. To specify, UL model number, then add 'CSA' to complete switch number. Note - applicable only to terminations with coin silver contacts (Q or G options) as CSA recognizes switches for power applications only.

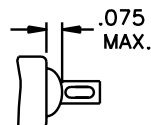
## SEALING & MISCELLANEOUS OPTIONS

**E**

Epoxy terminal sealing: Available with all terminal configurations.

The space between terminal & case hole is sealed with epoxy all around terminal.

Provides maximum protection from entry of flux or contaminants into the switch case.



**/R**

To specify reverse switch action on non-symmetrical models with bushing keyway, add 'R' to switch model no.

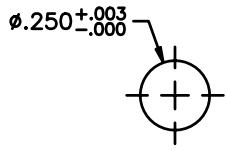
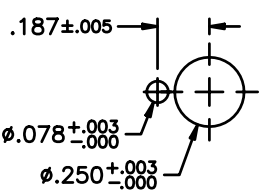
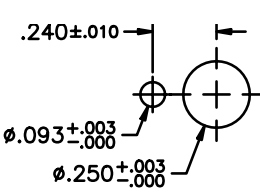
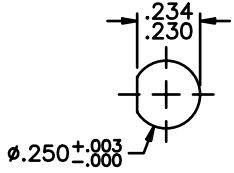
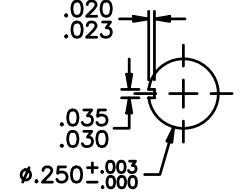
**22**

Black finish is available on actuator, bushing & hardware. To specify, add '22' to switch model no.

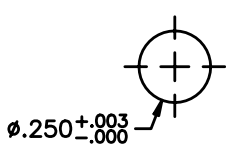
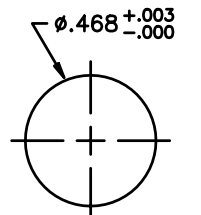
# ST SERIES - MINIATURE TOGGLE SWITCHES

## PANEL CUT-OUTS

### Cut-outs that accept all 1/4-40 threaded bushings:

|                                                                                                         |                                                                                                                     |                                                                                                                     |                                                                                                          |                                                                                                                         |
|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|  <p>Without keying</p> |  <p>With A107 anti-rotate ring</p> |  <p>With A158 anti-rotate ring</p> |  <p>With D bushing</p> |  <p>With slotted keyway bushings</p> |
|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|

### Cut-outs that accept non-threaded 1/4" bushings and 15/32" threaded bushings:

|                                                                                                                                 |                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
|  <p>Accepts all non-threaded 1/4" bushings</p> |  <p>15/32" threaded bushings</p> |
|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|