

## CATALOG

# Miniature Switches

Rocker, Toggle, Pushbutton & Slide



Carling Technologies®  
/// NOW PART OF



# FOUNDED IN 1920



Since its founding, Carling Technologies has continually forged a tradition of leadership in quality and product innovation.

There are few products that Carling Technologies hasn't turned "ON" and fewer industries that haven't turned to Carling for solutions.

With ISO and TS registered manufacturing facilities and technical sales offices worldwide, Carling ranks among the world's largest manufacturers of circuit breakers, switches, power distribution units, digital switching systems and electronic controls.



## SWITCHES & CONTROLS

- Electronic
- Rotary
- Rocker
- Combination
- Toggle
- Battery
- Pushbutton
- Disconnect

## CIRCUIT PROTECTION

- Hydraulic-Magnetic
- Thermal
- GFCI / ELCI
- Fuse Links & Holders

## CUSTOM SOLUTIONS

- PDU's
- Keypads
- Control Modules

## MULTIPLEXED POWER SYSTEMS

- HMI Devices & I/O Modules
- Programmable Displays
- Data Communication Interfaces
- Electrical Systems Monitoring

## STRATEGIC MARKETS SERVED:



On/Off Highway



Marine



Telecom/Datacom



Renewable Energy

## HEADQUARTERS/MANUFACTURING FACILITIES:



## OTHER SERVED INDUSTRIES:



Medical



Industrial Control



Audio / Visual



Commercial Food



HVAC



Floor Care



Generators



Small Appliances



Security Systems



Test & Measurement

## COMPETITIVE ADVANTAGES<sup>+</sup>



Innovative & Eco-Friendly Products



Excellent Quality & Customer Service



Reliable & On-Time Delivery



Vertical Integration

## WORLDWIDE NUMBERS:



2800<sup>+</sup>  
EMPLOYEES



150<sup>+</sup>  
ENGINEERS



70<sup>+</sup>  
DISTRIBUTORS



50<sup>+</sup>  
REP FIRMS

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**HELPFUL TIP** | Click on a product to go directly to that page number!

Carling’s miniature and subminiature sealed & non-sealed switches come in 1-4 pole configurations with ratings from 0.4VA to 6 amps. The miniature and subminiature switch lines include rocker, paddle, toggle, push button, and slide switches with PC, PCB, snap-in, and surface mount options. Certifications include UL, CSA, and cUL.

**Available Online** are tools such as a [configurit](#), [product selector](#) and [stock check](#). Please visit [www.carlingtech.com](http://www.carlingtech.com) for the latest information on all our products.

**Application Solution Engineers** are readily available to assist you in selecting the appropriate product for your application. For further assistance, please email us at [team2@carlingtech.com](mailto:team2@carlingtech.com)

**Custom Design Solutions** can be tailor-made for most any application using our extensive engineering resources.

**Other Products** such as switches, hydraulic-magnetic, ground fault and thermal circuit breakers.

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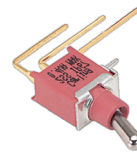
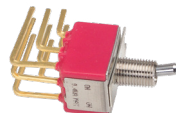
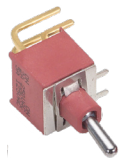
# Selector Guide

## ROCKERS



	IMS-Series	IMI-Series	ISM-Series	ISS-Series	IS1-Series
Sub-Miniature	-	-	✓	✓	✓
Miniature	✓	✓	-	-	-
Sealed	✓	-	✓	✓	-
Surface Mount	-	-	✓	-	-
Approvals			N/A	N/A	
IP Rating	IP67	N/A	N/A	N/A	N/A

## TOGGLES



	2MS-Series	2MIH-Series	2MI-Series	2SS-Series	2SM-Series	2S1-Series
Sub-Miniature	-	-	-	✓	✓	✓
Miniature	✓	✓	✓	-	-	-
Sealed	✓	✓	-	✓	✓	-
Surface Mount	-	-	-	✓	-	-
Approvals				N/A	N/A,	
IP Rating	IP67	IP67	N/A	IP67	IP67	N/A

# Selector Guide

## PUSHBUTTON



3MNH-Series

3MA-Series

3MS-Series

3MN-Series

3SM-Series

3SS-Series

3S1-Series

	3MNH-Series	3MA-Series	3MS-Series	3MN-Series	3SM-Series	3SS-Series	3S1-Series
Sub-Miniature	-	-	-	-	✓	✓	✓
Miniature	✓	✓	✓	✓	-	-	-
Sealed	✓	-	✓	-	✓	✓	-
Surface Mount	-	-	-	-	✓	-	-
Approvals					N/A,	N/A	N/A
IP Rating	IP67	N/A	IP68	N/A	IP67	IP67	N?A

## SLIDE



4M1-Series

4S1-Series

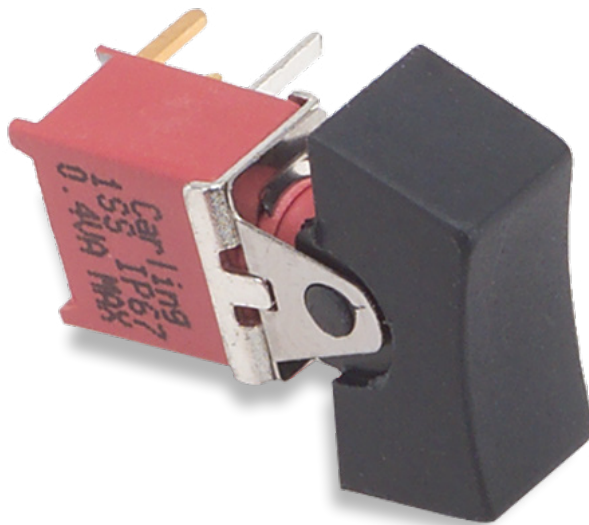
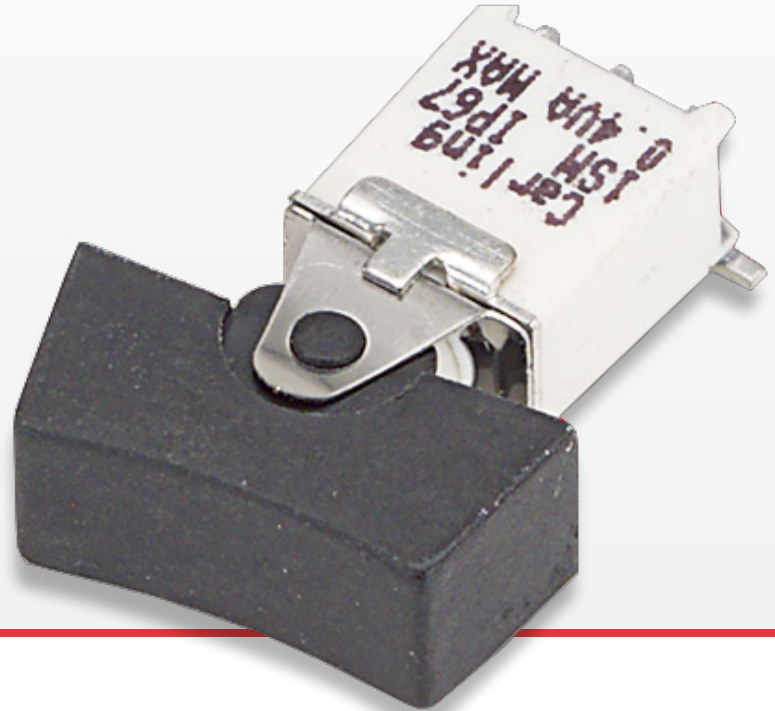
	4M1-Series	4S1-Series
Sub-Miniature	-	✓
Miniature	✓	-
Sealed	-	-
Surface Mount	-	-
Approvals		N/A
IP Rating	N/A	N/A

# 1S-Series

Miniature Rockers & Paddles

**PRODUCT WEBPAGE**

*request sample, configure part*



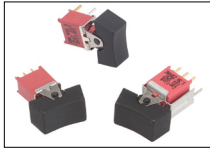
The 1S family of sub-miniature rocker switches is composed of three switch series; the 1S1-Series sub-miniature rocker switch, the 1SS-Series sealed sub-miniature rocker switch, and the 1SM-Series surface mount sealed sub-miniature rocker switch. All of these series offer a variety of ratings, circuits, contact materials, terminal platings, and actuator colors.

<b>1-2</b>	<b>.4-3</b>	<b>125,250</b>	<b>28</b>
Poles	Amps	VAC	VDC

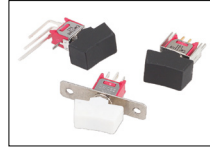
## Typical Applications

- Instrumentation
- Test Equipment
- Telecommunications
- Networking
- Handheld Appliances
- Medical Equipment

# Tech Specs



**ISS-Series**  
Sealed  
Sub-  
Miniature



**ISI-Series**  
Sub-  
Miniature



**ISM-Series**  
Sealed Surface Mount  
Sub-Miniature  
Rocker Switch

## Electrical

Contact Rating	refer to ordering scheme
Electrical Life	<b>ISI-Series:</b> 30,000 make & break cycles @ full load <b>ISS &amp; ISM-Series:</b> 50,000 make & break cycles @ full load
Contact Resistance	20 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts
Insulation Resistance	1000 MΩ min.
Dielectric Strength	1500 Volts RMS @ sea level

## Physical

Operating Temperature	-30°C to +85°C
Index of Protection	1SS & 1SM-Series: IP67
Solder Heat Resistance	MIL-STD-202, Method 210
Actuator Travel	25°

## Material

Case	all UL94 V-0 <b>ISI-Series:</b> Diallyl phthalate (DAP) <b>ISS-Series:</b> Glass filled nylon 6/6, flame retardant, heat stabilized <b>ISM-Series:</b> Glass filled nylon 4/6, flame retardant, heat stabilized
Rocker	<b>ISI-Series:</b> Nylon (UL 94V-0) <b>ISS &amp; ISM-Series:</b> Nylon, black standard, internal o-ring sealed
Bushing	<b>ISI-Series:</b> Brass, nickel plated <b>ISS-Series:</b> Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0) <b>ISM-Series:</b> Glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0)
Housing	<b>ISI-Series:</b> Stainless Steel
Switch Support	<b>ISI &amp; ISM-Series:</b> Brass, tin plated
Terminal Seal	Epoxy

# Ordering Scheme

Sample Part Number **ISS - WMSP 1 - R2 / 2 M2 G E**

Selection 1 2 3 4 5 6 7 8

### 1. SERIES

**ISS** Sealed Sub-Miniature Rocker Switch

### 2. POLES

**WMSP** Single pole - uses terminals 1, 2 & 3  
**WMDP** Double pole - uses terminals 1, 2, 3, 4, 5 & 6

### 3. CIRCUIT

( ) - momentary  
Position: **1** **2** **3**

1	2-3, 5-6	Connected Terminals	2-1, 5-4
2	ON	NONE	ON
3	ON	NONE	(ON)
4	(ON)	OFF	ON
5	ON	OFF	(ON)

### 4. ACTUATOR STYLE

**R1** Small Rocker  
**R2** Narrow Black Rocker

### 5. ACTUATOR COLOR

**1** White  
**2** Black  
**3** Red  
Other colors available, consult factory.

### 6. TERMINATION

<b>M1</b> Solder Lug	<b>M61</b> Snap-In, U bracket, 90° horizontal
<b>M2</b> PCB	<b>M71</b> Snap-In, U bracket, 90° horizontal
<b>M6</b> PC Mount, 90° horizontal	<b>VS21</b> Snap-In, U bracket
<b>M7</b> PC Mount, 90° vertical	
<b>VS2</b> PC Mount, U bracket	

See dimensional specifications.

### 7. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
<b>G</b> silver <sup>1</sup>	gold over silver	3A 125VAC or 28VDC, 1.5A 250VAC	IP67
<b>K</b> gold <sup>2,5</sup>	tin <sup>4</sup>	0.4VA max 20V max (AC/DC)	IP67
<b>P</b> silver <sup>1,6</sup>	tin <sup>4</sup>	3A 125VAC or 28VDC, 1.5A 250VAC	IP67
<b>R</b> gold <sup>2</sup>	gold <sup>2,3</sup>	0.4VA max 20V max (AC/DC)	IP67

### 8. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

Notes: Tin option not available with M1 terminal.  
1 Movable contact and terminal platings: silver over copper alloy  
2 Movable contact platings: gold over nickel over copper alloy  
3 Terminal platings: gold over nickel over copper alloy  
4 Terminal platings: tin over copper alloy  
5 Terminal contact platings: gold over nickel alloy  
6 Terminal contact platings: silver over nickel alloy

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

# Ordering Scheme

Sample Part Number 1S1 - MSP 1 - R2 / 2 M6 Q E

Selection 1 2 3 4 5 6 7 8

## 1. SERIES

**1S1** Sub-Miniature Rocker Switch

## 2. POLES

**MSP** Single pole - uses terminals 1, 2 & 3  
**MDP** Double pole - uses terminals 1, 2, 3, 4, 5 & 6

## 3. CIRCUIT

( ) - momentary  
**Position:**

1	2	3
2-3, 5-6	Connected Terminals	2-1, 5-4
ON	NONE	ON
ON	NONE	(ON)
ON	OFF	ON
(ON)	OFF	(ON)
ON	OFF	(ON)

## 4. ACTUATOR STYLE

**R1** Small Rocker  
**R2** Narrow Black Rocker  
**R3** Medium Rocker

## 5. ACTUATOR COLOR

**1** White  
**2** Black  
**3** Red  
 Other colors available, consult factory.

## 6. TERMINATION

<b>M1</b> Solder Lug	<b>M61</b> Snap-In, U bracket, 90° horizontal
<b>M2</b> PCB	<b>M71</b> Snap-In, U bracket, 90° horizontal
<b>M6</b> PC Mount, 90° horizontal	<b>VS21</b> Snap-In, U bracket
<b>M7</b> PC Mount, 90° vertical	
<b>VS2</b> PC Mount, U bracket	
<b>VS3</b> PC Mount, U bracket	

See dimensional specifications.

## 7. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
<b>G</b> silver <sup>1</sup>	gold over silver 1.5A 250VAC	3A 125VAC or 28VDC,	UL, CE
<b>K</b> gold <sup>2</sup>	tin <sup>3</sup>	0.4VA max 20V max (AC/DC) N/A	
<b>P</b> silver <sup>1</sup>	tin <sup>3</sup> 1.5A 250VAC	3A 125VAC or 28VDC,	UL, CE
<b>Q</b> silver <sup>1</sup>	silver <sup>1</sup> 1.5A 250VAC	3A 125VAC or 28VDC,	UL, CE
<b>R</b> gold <sup>2</sup>	gold <sup>2</sup>	0.4VA max 20V max (AC/DC) N/A	

## 8. EPOXY SEAL

**E** Epoxy Seal      **0** without Epoxy Seal

Notes:

Tin option available with M1 termination.

1 Movable contact and terminal platings: silver over copper alloy

2 Movable contact and terminal platings: gold over nickel over copper alloy

3 Terminal platings: tin over nickel over copper alloy

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

# Ordering Scheme

Sample Part Number 1SM - WMSP 1 - R2 - M2 G E

Selection 1 2 3 4 5 6 7

## 1. SERIES

**1SM** Sealed Surface Mount Sub-Miniature Rocker Switch

## 2. POLES

**WMSP** Single pole - uses terminals 1, 2 & 3

## 3. CIRCUIT

( ) - momentary  
**Position:**

1	2	3
2-3	Connected Terminals	2-1
ON	NONE	ON
ON	NONE	(ON)
ON	OFF	ON
(ON)	OFF	(ON)
ON	OFF	(ON)

## 4. ACTUATOR STYLE

**R2** Narrow Black Rocker

## 5. TERMINATION

**M6** Surface Mount, 90° flat - horizontal / side  
**S6** Surface Mount, 90° horizontal / back  
**S7** Surface Mount, 90° vertical  
 See dimensional specifications.

## 6. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
<b>G</b> silver <sup>1</sup>	gold over silver	3A 125VAC or 28VDC,	IP67 1.5A 250VAC
<b>K</b> gold <sup>2,5</sup>	tin <sup>4</sup>	0.4VA max 20V max (AC/DC)	IP67
<b>P</b> silver <sup>1,6</sup>	tin <sup>4</sup>	3A 125VAC or 28VDC,	IP67 1.5A 250VAC
<b>Q</b> silver <sup>1</sup>	silver <sup>1</sup>	3A 125VAC or 28VDC,	IP67 1.5A 250VAC
<b>R</b> gold <sup>2</sup>	gold <sup>3</sup>	0.4VA max 20V max (AC/DC)	IP67

## 7. EPOXY SEAL

**E** Epoxy Seal      **0** without Epoxy Seal

## 8. PACKAGING

**T/R** tape reel - 500 pieces per reel

Switches are bulk packed, unless T/R is specified at the end of the part number.

Notes:

Tin option not available with M1 termination.

1 Movable contact and terminal platings: silver over copper alloy

2 Movable contact platings: gold over nickel over copper alloy

3 Terminal platings: gold over nickel over copper alloy

4 Terminal platings: tin over copper alloy

5 Terminal contact platings: gold over nickel alloy

6 Terminal contact platings: silver over nickel alloy

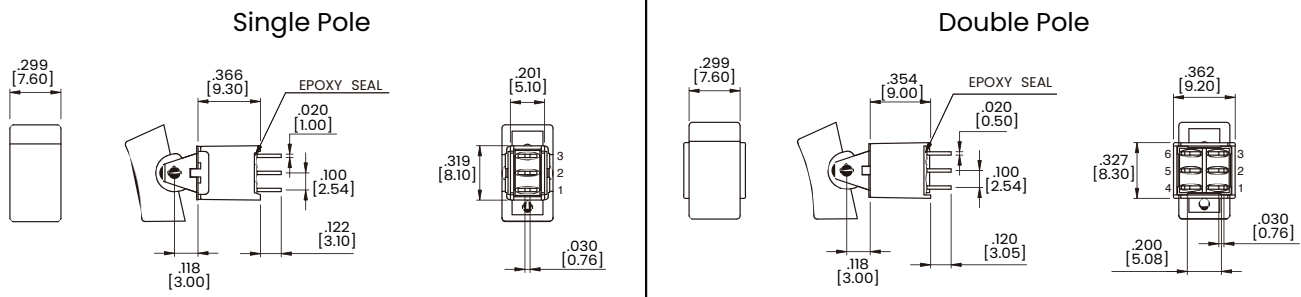
[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

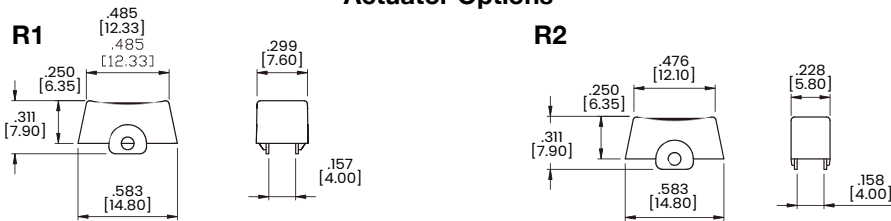


# Dimensional Specs

inches [millimeters]

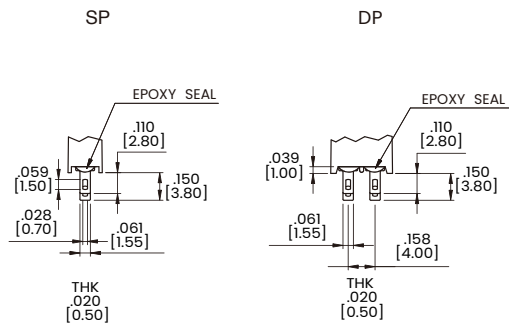


## Actuator Options

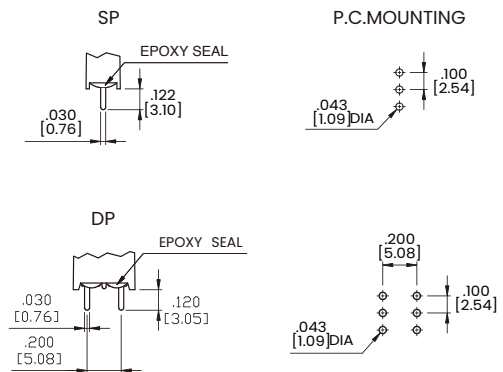


## Termination Options

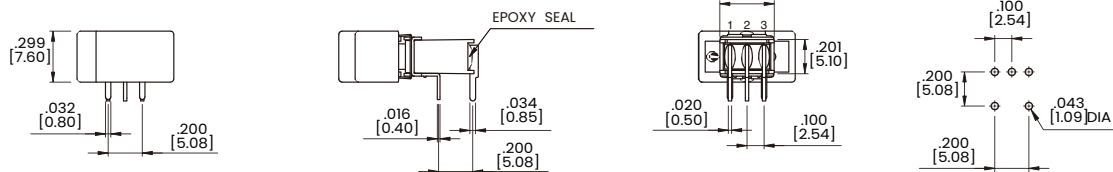
### M1 STD. Solder Lug



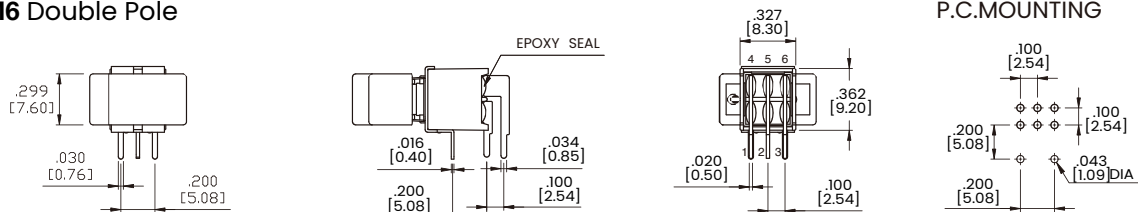
### M2 PC Thru-Hole



### M6 Single Pole



### M6 Double Pole

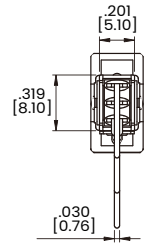
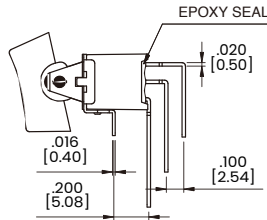
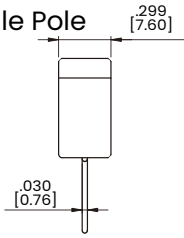


# Dimensional Specs

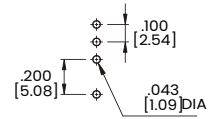
inches [millimeters]

## Termination Options

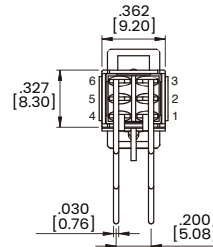
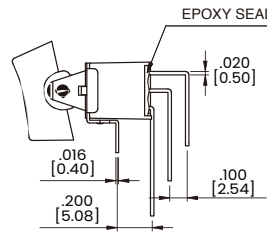
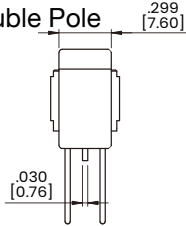
**M7 Single Pole**



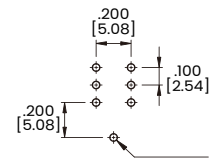
**P.C.MOUNTING**



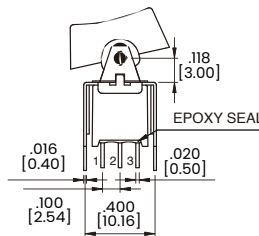
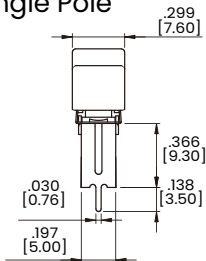
**M7 Double Pole**



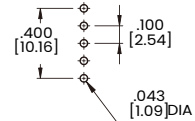
**P.C.MOUNTING**



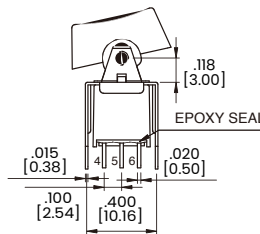
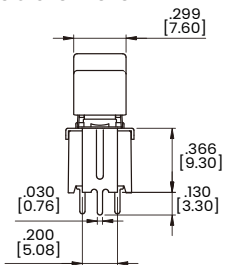
**VS2 Single Pole**



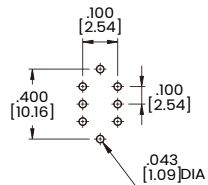
**P.C.MOUNTING**



**VS2 Double Pole**

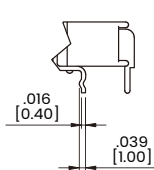


**P.C.MOUNTING**

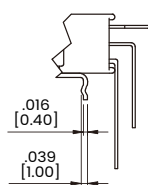


## Snap-In Termination Options

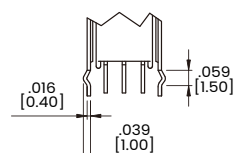
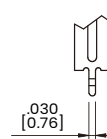
**M61**



**M71**



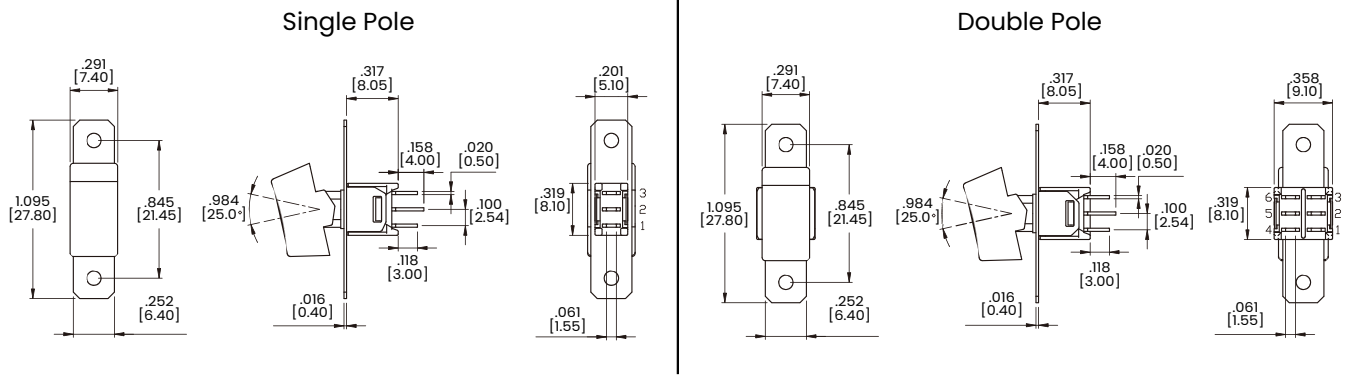
**VS21**



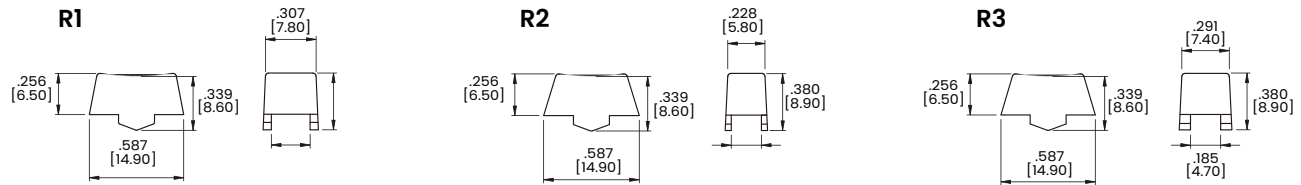
\* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.

# Dimensional Specs

inches [millimeters]

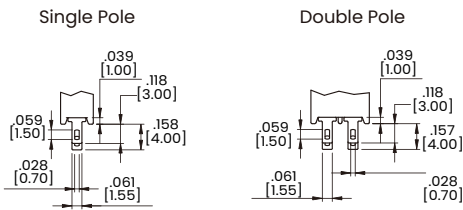


## Actuator Options

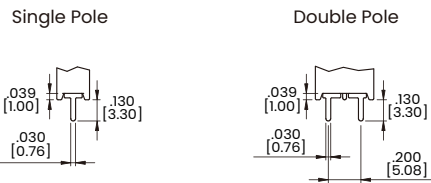


## Termination Options

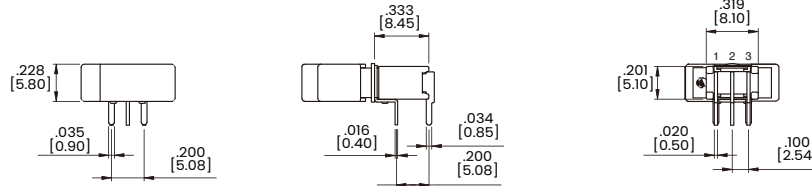
### M1 STD. Solder Lug



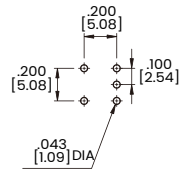
### M2 PC Thru-Hole



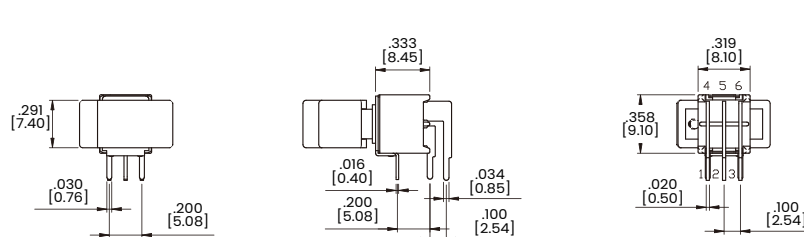
### M6 Single Pole



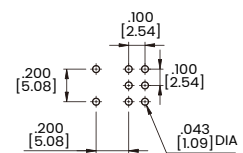
### P.C.MOUNTING



### M6 Double Pole



### P.C.MOUNTING

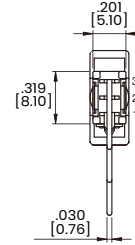
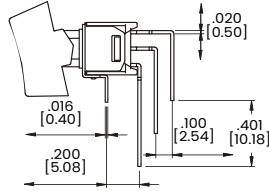
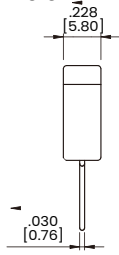


# Dimensional Specs

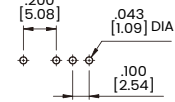
inches [millimeters]

## Termination Options

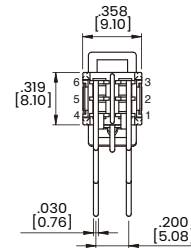
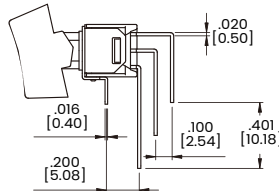
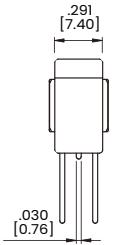
### M7 Single Pole



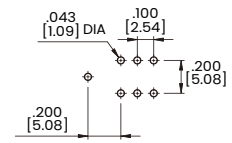
### P.C. MOUNTING



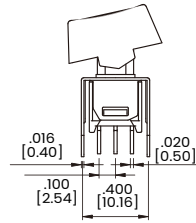
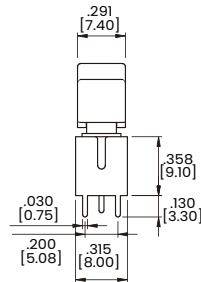
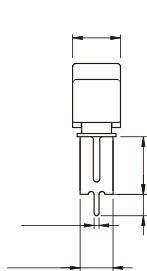
### M7 Double Pole



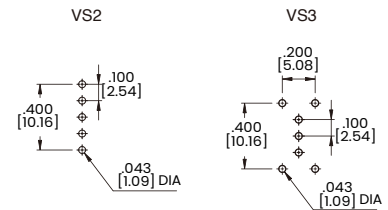
### P.C. MOUNTING



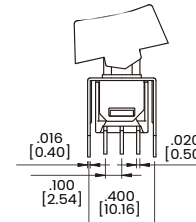
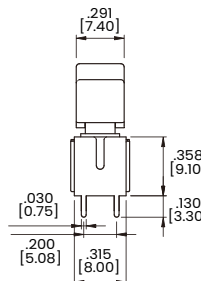
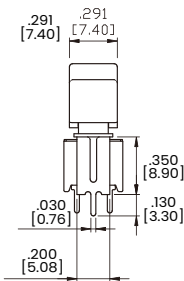
### VS2-VS3 Single Pole



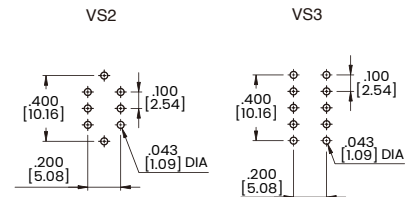
### P.C. MOUNTING



### VS2-VS3 Double Pole

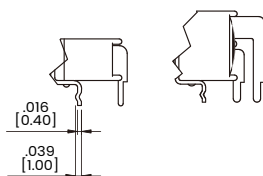


### P.C. MOUNTING

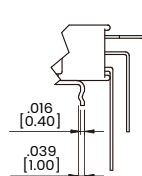


## Snap-In Termination Options

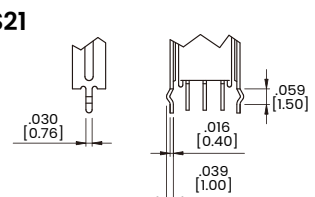
### M61



### M71



### VS21

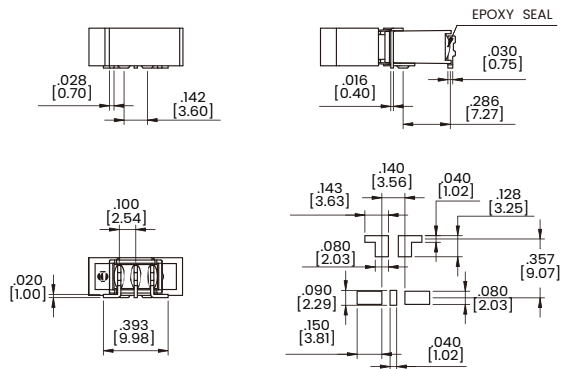


\* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.

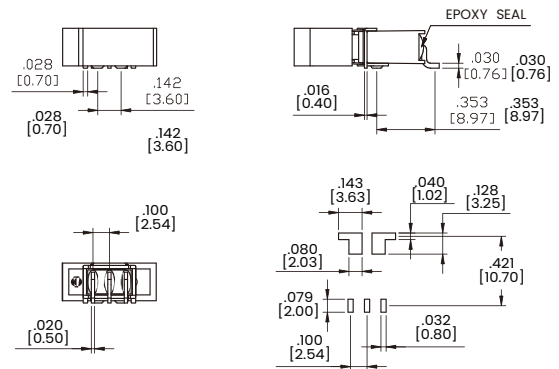
# Dimensional Specs

inches [millimeters]

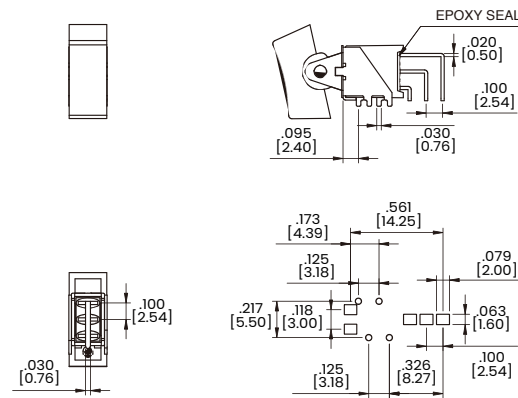
## M6 Single Pole



## S6 Single Pole

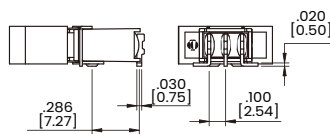


## S7 Single Pole

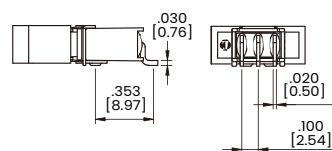


## Termination Options

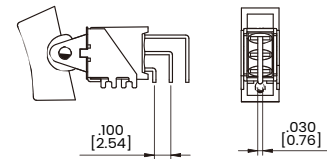
### M6



### S6



### S7

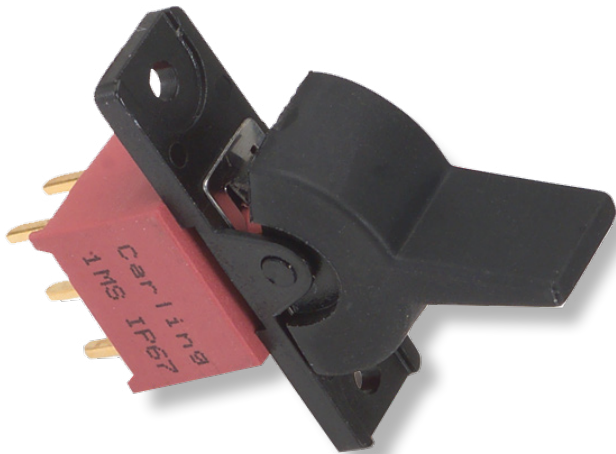


# 1M-Series

Miniature Rockers & Paddles

[PRODUCT WEBPAGE](#)

*request sample, configure part*



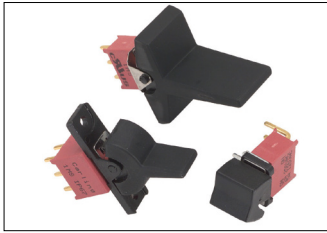
The 1M family of miniature rocker & paddle switches is composed of two switch series; the 1M1-Series miniature rocker and paddle switch, and the 1MS-Series sealed miniature rocker and paddle switch. Both products feature PC mounting and offer a variety of ratings, circuits, contact materials, terminal platings, rocker and paddle actuator styles and colors.

**1-3** Poles    **.4-5** Amps    **125, 250** VAC    **28** VDC

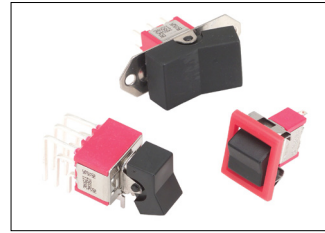
## Typical Applications

- Instrumentation
- Test Equipment
- Telecommunications
- Networking
- Handheld Appliances
- Medical Equipment

# Tech Specs



**IMS-Series  
Sealed  
Miniature Rocker  
& Rocker Switch**



**IMI-Series  
Miniature Rocker  
& Rocker Switch**

## Electrical

Contact Rating	refer to ordering scheme
Electrical Life	IMS-Series: 30,000 make & break cycles @ full load IMI-Series: 50,000 make & breakcycles @ full load
Contact Resistance	10 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts
Insulation Resistance	1000 MΩ min.
Dielectric Strength	1500 Volts RMS @ sea level

## Physical

Operating Temperature	-30°C to +85°C
Index of Protection	IMS-Series: IP67
Solder Heat Resistance	MIL-STD-202, Method 210
Actuator Travel	25°

## Material

Case	IMS-Series: Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0) IMI-Series: Diallyl phthalate (DAP) (UL 94V-0)
Rocker/Paddle	IMS-Series: Nylon, black standard, internal o-ring sealed IMI-Series: Nylon (UL 94V-0)
Bushing	IMS-Series: Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0) IMI-Series: Brass, nickel plated
Housing	IMS-Series: Spring Steel IMI-Series: Stainless Steel
Actuator Pivot & Mounting Bracket	IMS-Series: Nylon (UL 94V-0) IMI-Series: Stainless Steel
Actuator Pivot Retainer	IMS-Series: Stainless Steel
Switch Support	Brass, tin plated
Terminal Seal	Epoxy

# Ordering Schemes

Sample Part Number

**IMS - SP 1 - R6 / 2 M6 G E**

Selection 1 2 3 4 5 6 7 8

## 1. SERIES

**IMS** Sealed Miniature Rocker Switch

## 2. POLES

**SP** Single pole - uses terminals 1, 2 & 3  
**DP** Double pole uses terminals 1, 2, 3, 4, 5 & 6  
**3P** Three pole uses terminals 1, 2, 3, 4, 5, 6, 7, 8 & 9

## 3. CIRCUIT

( ) - momentary  
**Position:** **1** **2** **3**  
 2-3, 5-6, 8-9 Connected Terminals 2-1, 5-4, 8-7

1	ON	NONE	ON
2	ON	NONE	(ON)
3	ON	OFF	ON
4	(ON)	OFF	(ON)
5	ON	OFF	(ON)
6*	ON	ON	ON
7*	(ON)	ON	(ON)
8*	ON	ON	(ON)
9*	OFF	ON	(ON)

\*Center Position Connects 2-3, 5-4, 8-9

## 4. ACTUATOR STYLE

**R1** Standard Rocker **R5** Large Rocker  
**R2** Standard Paddle **R6** Small Rocker  
**R3** Medium Rocker **R7** Medium Paddle  
**R4** Large Paddle

## 5. ACTUATOR COLOR

**1** White **2** Black **3** Red  
 Black is standard. Other colors available, consult factory.

## 6. TERMINATION

<b>M1</b> Solder Lug	<b>VS2</b> PC Mount, U bracket
<b>M2</b> PCB	<b>VS3</b> PC Mount, U bracket
<b>M3</b> Quick Connect	<b>VS4</b> PC Mount, U bracket
<b>M51</b> Wire Wrap	<b>VS5</b> PC Mount, U bracket
<b>M52</b> Wire Wrap	<b>VS21</b> Snap-In, U bracket
<b>M53</b> Wire Wrap	<b>VS31</b> Snap-In, U bracket
<b>M54</b> Wire Wrap	<b>VS41</b> Snap-In, U bracket
<b>M6</b> PC Mount, 90° horizontal	<b>VS51</b> Snap-In, U bracket
<b>M7</b> PC Mount, 90° vertical	<b>U2</b> Vertical Mount, 3-Pole
	<b>U4</b> Snap-In, U bracket, 3-Pole

See dimensional specifications.

## 7. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
<b>G</b> silver <sup>1</sup>	gold over silver 2A	5A 125VAC or 28VDC, 250VAC	us, IP67
<b>K</b> gold <sup>2,5</sup>	tin <sup>4</sup>	0.4VA max 20V max (AC/DC)	IP67
<b>P</b> silver <sup>1,6</sup>	tin <sup>4</sup>	5A 125VAC or 28VDC, 250VAC	us, IP67
<b>R</b> gold <sup>2</sup>	gold <sup>3</sup>	0.4VA max 20V max (AC/DC)	IP67

## 8. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

Notes:

- Tin option not available with M1 and M3 terminals.
- 1 Movable contact and terminal platings: silver over copper alloy
- 2 Movable contact platings: gold over nickel over copper alloy
- 3 Terminal platings: gold over nickel over copper alloy
- 4 Terminal platings: tin over copper alloy
- 5 Terminal contact platings: gold over nickel alloy
- 6 Terminal contact platings: silver over nickel alloy

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

Sample Part Number

**IMI - SP 1 - R8 / 2 - 2 M6 Q E**

Selection 1 2 3 4 5 6 7 8 9

## 1. SERIES

**IMI** Miniature Rocker Switch

## 2. POLES

**SP** Single pole - uses terminals 1, 2 & 3  
**DP** Double pole uses terminals 1, 2, 3, 4, 5 & 6  
**3P** Three pole uses terminals 1, 2, 3, 4, 5, 6, 7, 8 & 9  
**4P** Four pole uses terminals 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

## 3. CIRCUIT

( ) - momentary  
**Position:** **1** **2** **3**  
 2-3, 5-6, 8-9, 11-12 Connected Terminals 2-1, 5-4, 8-7, 11-10

1	ON	NONE	ON
2	ON	NONE	(ON)
3	ON	OFF	ON
4	(ON)	OFF	(ON)
5	ON	OFF	(ON)
6 <sup>1</sup>	ON	ON	ON
7 <sup>1</sup>	(ON)	ON	(ON)
8 <sup>1</sup>	ON	ON	(ON)
9 <sup>2</sup>	NONE	ON	(ON)

## 4. ACTUATOR STYLE

**R1** Standard Rocker **R6** Rocker & frame  
**R2** Standard Paddle **R7** Paddle & frame  
**R3** Medium Rocker **R8** Rocker without frame  
**R4** Large Paddle **R9** Paddle without frame  
**R5** Large rocker

## 5. ACTUATOR COLOR / 6 FRAME COLOR

**0** No Frame\* **2** Black  
**1** White **3** Red  
 Black is standard. Other colors available, consult factory.  
 \*Actuator style R8 or R9 only.

## 7. TERMINATION

<b>M1</b> Solder Lug	<b>VS3</b> PC Mount, U bracket
<b>M2</b> PCB	<b>VS4</b> PC Mount, U bracket
<b>M3</b> Quick Connect	<b>VS5</b> PC Mount, U bracket
<b>M51</b> Wire Wrap	<b>M61</b> Snap-In, U bracket, 90° horizontal
<b>M52</b> Wire Wrap	<b>M71</b> Snap-In, U bracket, 90° vertical
<b>M53</b> Wire Wrap	<b>VS21</b> Snap-In, U bracket
<b>M54</b> Wire Wrap	<b>VS31</b> Snap-In, U bracket
<b>M6</b> PC Mount, 90° horizontal	<b>VS41</b> Snap-In, U bracket
<b>M7</b> PC Mount, 90° vertical	<b>VS51</b> Snap-In, U bracket
<b>VS2</b> PC Mount, U bracket	<b>U4</b> Snap-In, U bracket, 3-Pole

See dimensional specifications.

## 8. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
<b>G</b> silver <sup>3</sup>	gold over silver 2A	5A 125VAC or 28VDC, 250VAC	
<b>K</b> gold <sup>4,7</sup>	tin <sup>6</sup>	0.4VA max 20V max (AC/DC)	N/A
<b>P</b> silver <sup>3,8</sup>	tin <sup>6</sup>	5A 125VAC or 28VDC,	
<b>Q</b> silver <sup>3</sup>	silver <sup>3</sup>	5A 125VAC or 28VDC,	
<b>R</b> gold <sup>4</sup>	gold <sup>5</sup>	0.4VA max 20V max (AC/DC)	N/A

## 9. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

Notes:

- Tin option not available with M1 and M3 terminals.
- 1 Double-Pole and Four-Pole only. Center position connects 2-3, 5-4, 8-9, 11-10
- 2 Double-Pole only
- 3 Movable contact and terminal platings: silver over copper alloy
- 4 Movable contact platings: gold over nickel over copper alloy
- 5 Terminal platings: gold over nickel over copper alloy
- 6 Terminal platings: tin over copper alloy
- 7 Terminal contact platings: gold over nickel alloy
- 8 Terminal contact platings: silver over nickel alloy

[Configure Complete Part Number >](#)

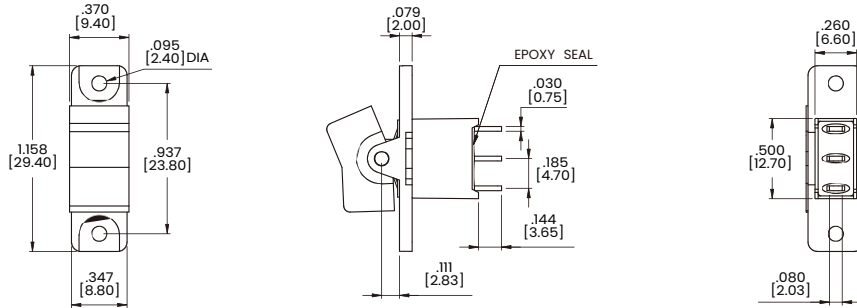
[Browse Standard Parts >](#)



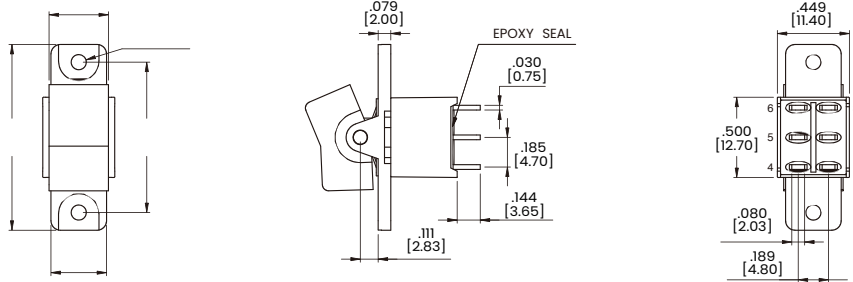
# Dimensional Specs

inches [millimeters]

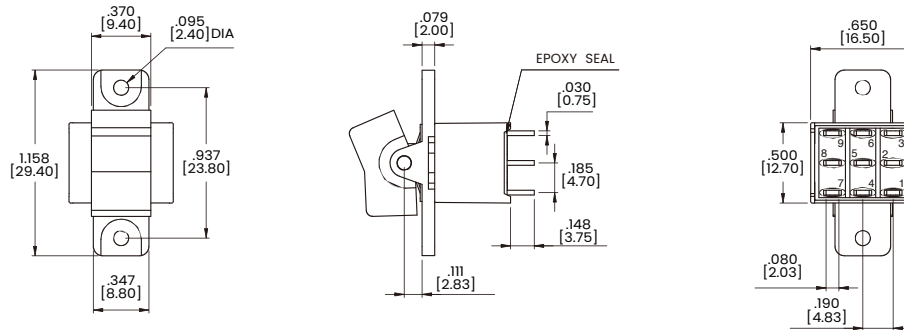
## Single Pole



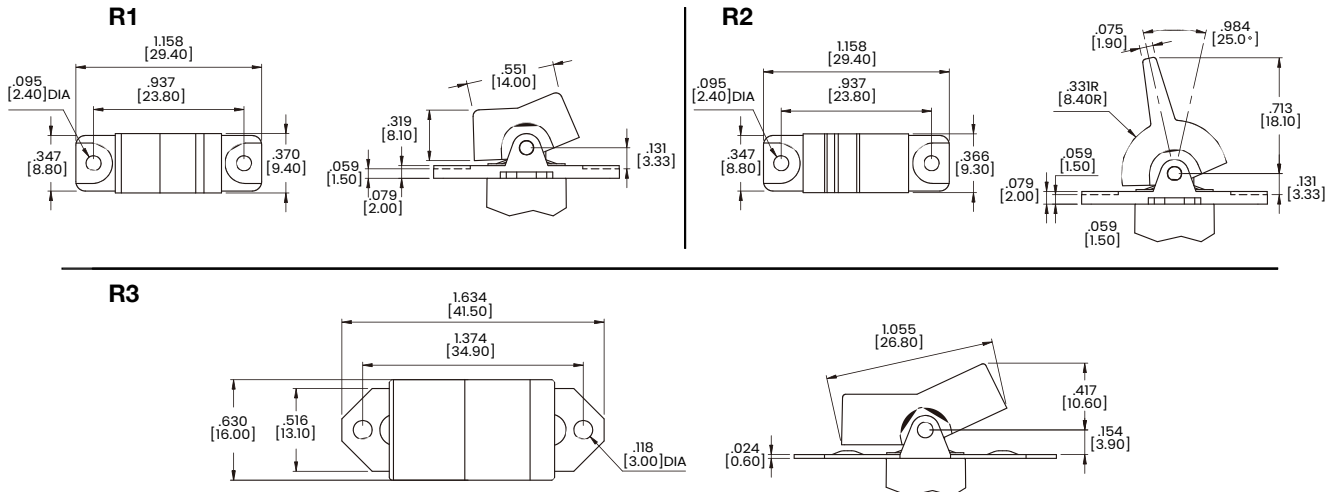
## Double Pole



## Three Pole



## Actuator Options for Panel Rear Mount

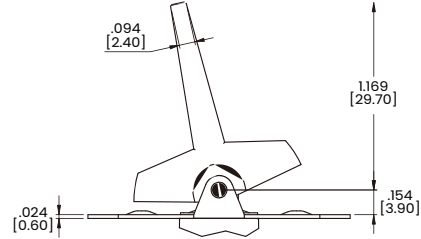
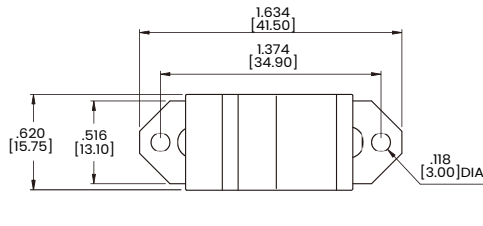


# Dimensional Specs

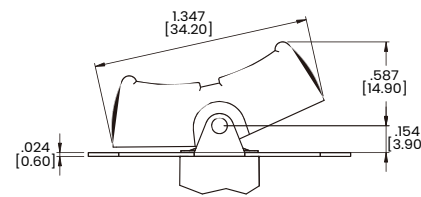
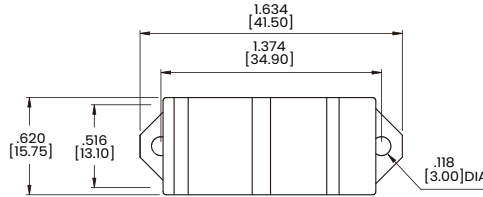
inches [millimeters]

## Actuator Options for Panel Rear Mount

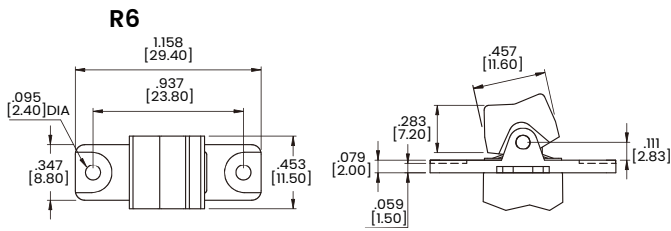
**R4**



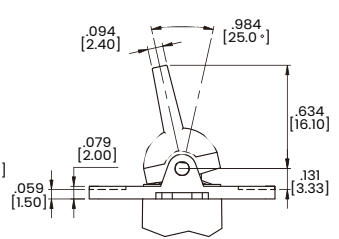
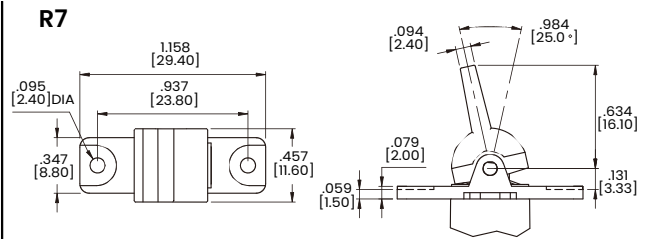
**R5**



**R6**

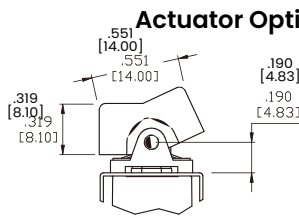
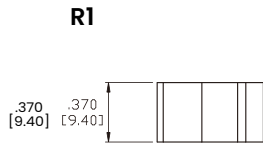


**R7**

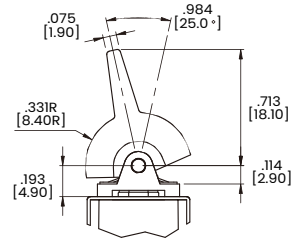
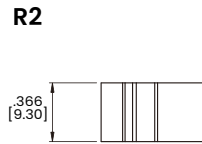


## Actuator Options for PC Mount

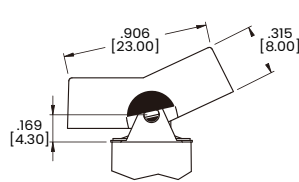
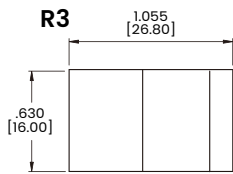
**R1**



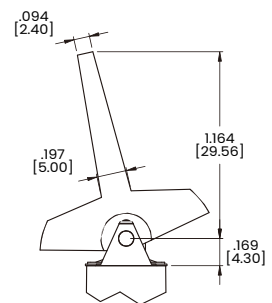
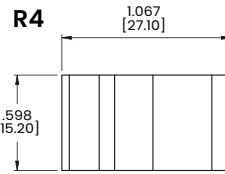
**R2**



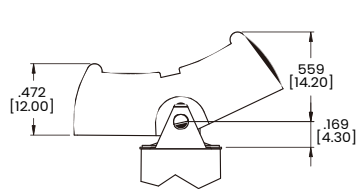
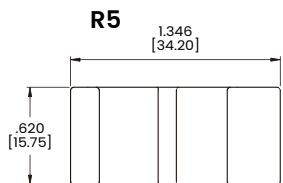
**R3**



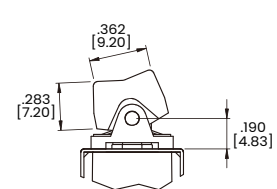
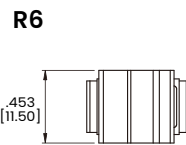
**R4**



**R5**



**R6**

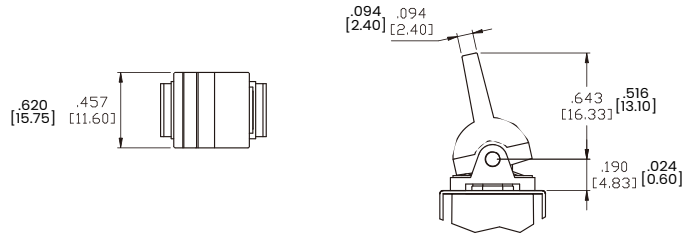


# Dimensional Specs

inches [millimeters]

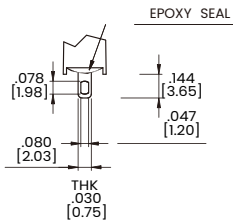
## Actuator Options for PC Mount

R7

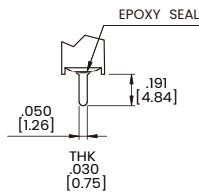


## Termination Options

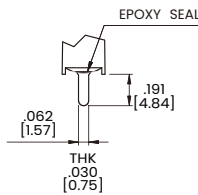
M1 Standard Solder Lug



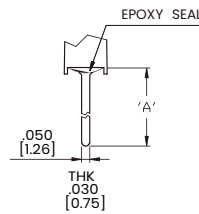
M2 PC Thru-Hole



M3 Quick Connect

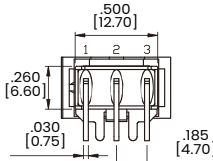
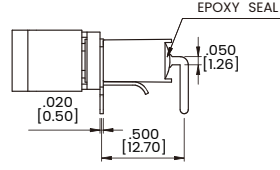
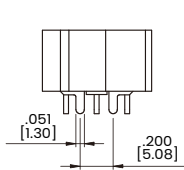


M5 Wire Wrap

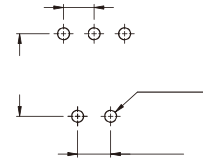


OPTION CODE	DIM.'A'
M5-1	.711 [18.05]
M5-2	.924 [23.48]
M5-3	.386 [9.80]
M5-4	1.022 [25.97]

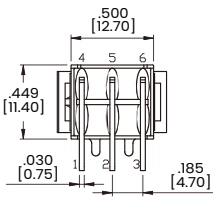
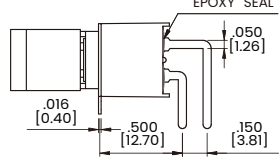
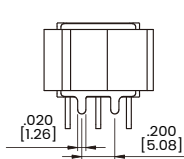
M6 Single Pole



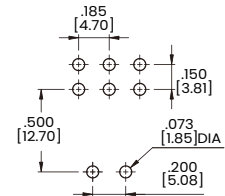
P.C.MOUNTING



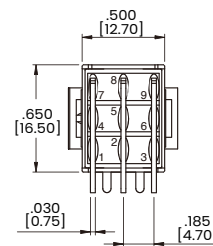
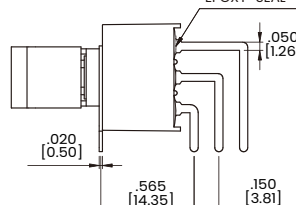
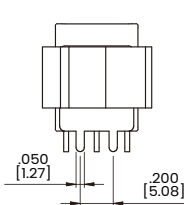
M6 Double Pole



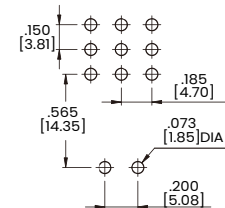
P.C.MOUNTING



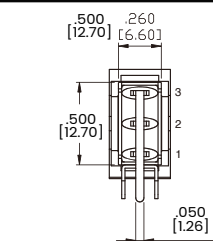
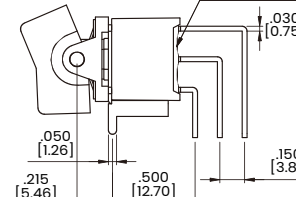
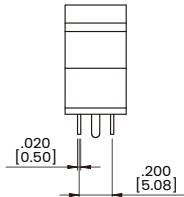
M6 Three Pole



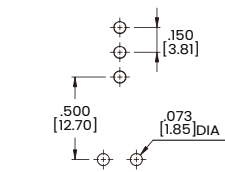
P.C.MOUNTING



M7 Single Pole



P.C.MOUNTING

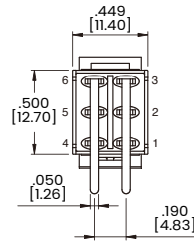
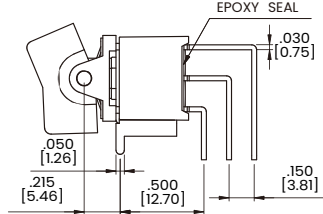
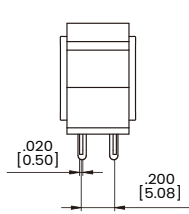


# Dimensional Specs

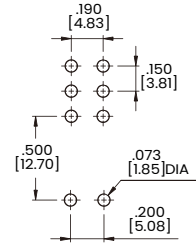
inches [millimeters]

## Termination Options

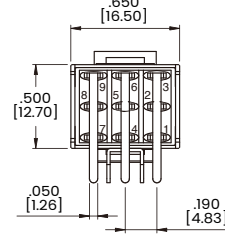
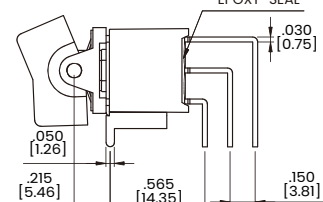
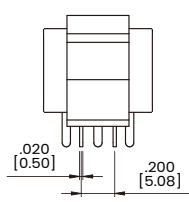
### M7 Double Pole



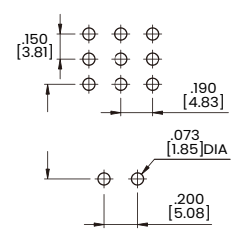
### P.C.MOUNTING



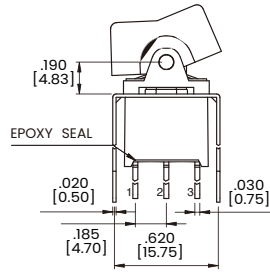
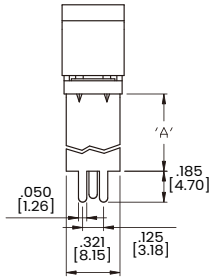
### M7 Three Pole



### P.C.MOUNTING

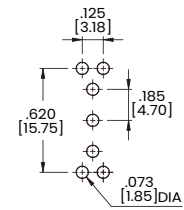


### VS2-VS3 Single Pole

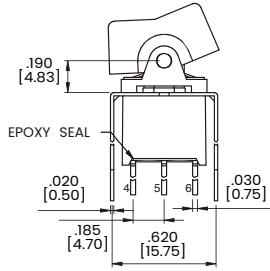
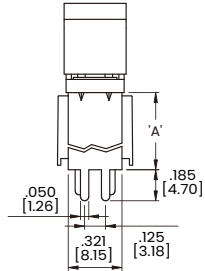


OPTION CODE	DIM.'A'
<b>VS2</b>	.461 [11.70]
<b>VS3</b>	.630 [16.00]

### P.C.MOUNTING

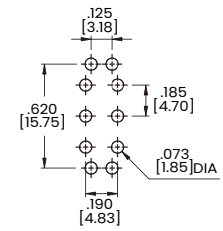


### VS2-VS3 Double Pole

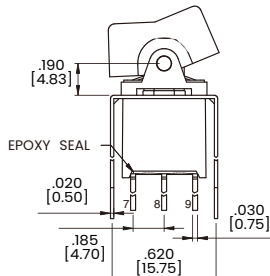
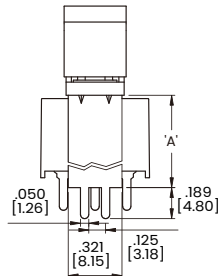


OPTION CODE	DIM.'A'
<b>VS2</b>	.461 [11.70]
<b>VS3</b>	.630 [16.00]

### P.C.MOUNTING

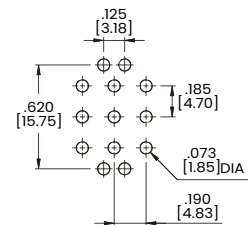


### U2-VS3 Three Pole



OPTION CODE	DIM.'A'
<b>U2</b>	.551 [14.00]
<b>VS3</b>	.630 [16.00]

### P.C.MOUNTING

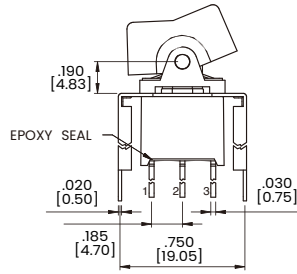
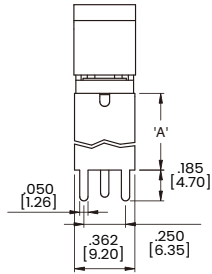


# Dimensional Specs

inches [millimeters]

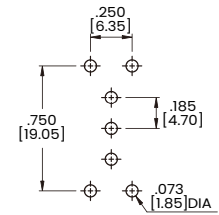
## Termination Options

### VS4-VS5 Single Pole

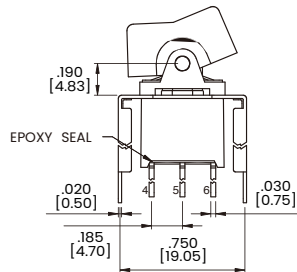
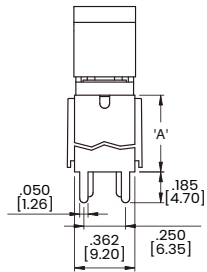


OPTION CODE	DIM.'A'
<b>VS4</b>	.461 [11.70]
<b>VS5</b>	.630 [16.00]

### P.C.MOUNTING

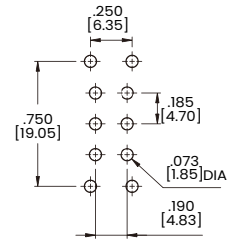


### VS4-VS5 Double Pole

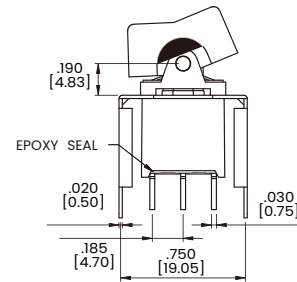
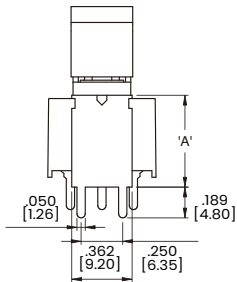


OPTION CODE	DIM.'A'
<b>VS4</b>	.461 [11.70]
<b>VS5</b>	.630 [16.00]

### P.C.MOUNTING

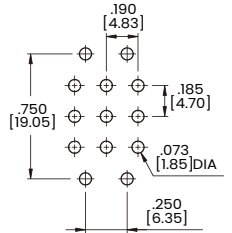


### U4-VS5 Three Pole



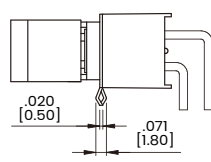
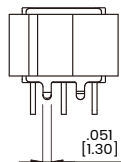
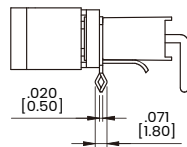
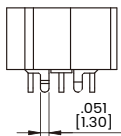
OPTION CODE	DIM.'A'
<b>U4</b>	.551 [14.00]
<b>VS5</b>	.630 [16.00]

### P.C.MOUNTING

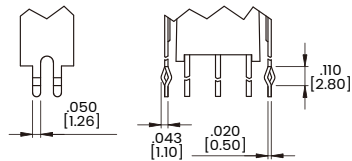


## Snap-In Termination Options

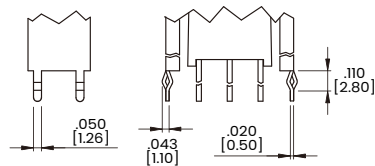
### M61



### VS21, VS31



### VS41, VS51

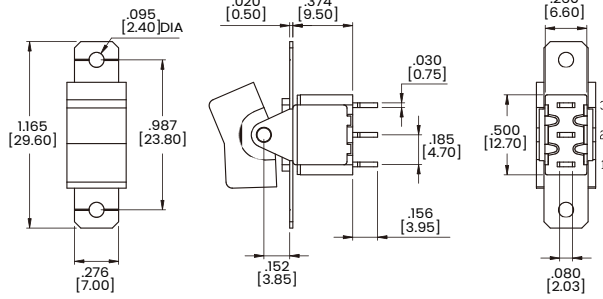


\* PC Mounting for M61, M71, VS21, VS31, VS41, VS51 refer to M6, M7, VS2, VS3, VS4, VS5 respectively.

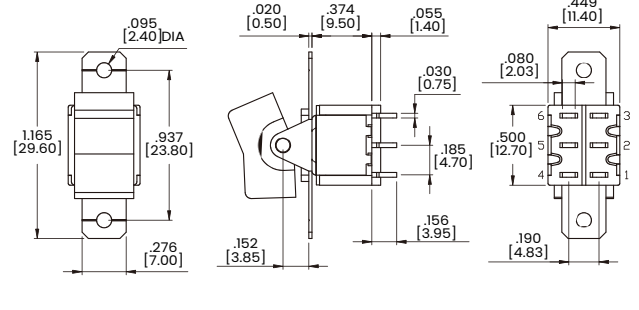
# Dimensional Specs

inches [millimeters]

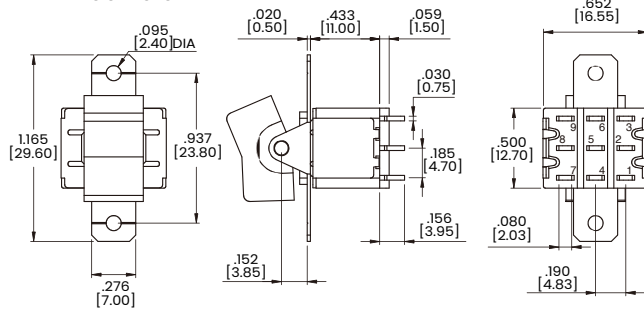
## Single Pole



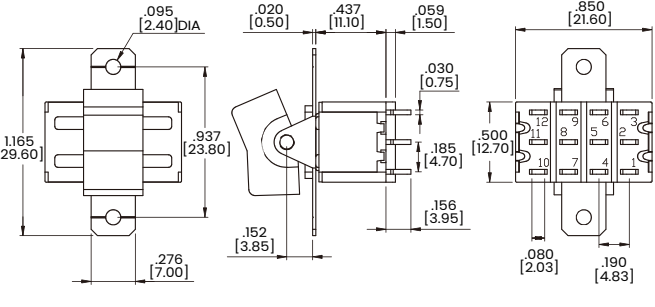
## Double Pole



## Three Pole

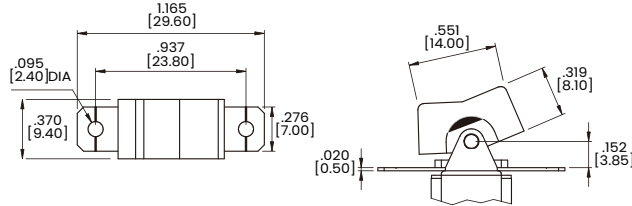


## Four Pole

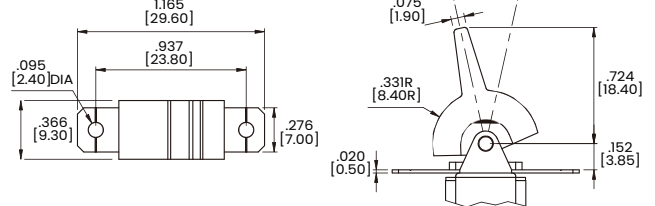


## Actuator Options for Panel Rear Mount

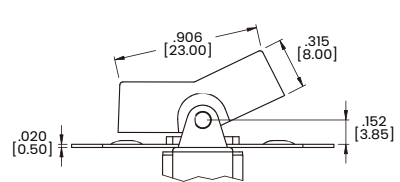
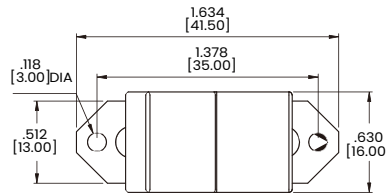
### R1



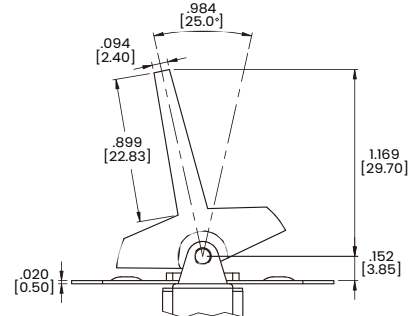
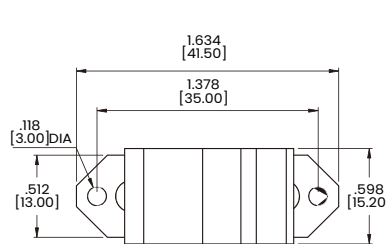
### R2



### R3



### R4

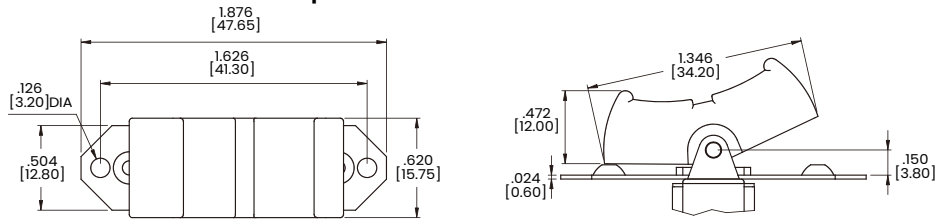


# Dimensional Specs

inches [millimeters]

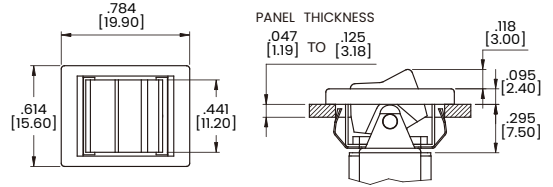
## Actuator Options for Panel Rear Mount

R5

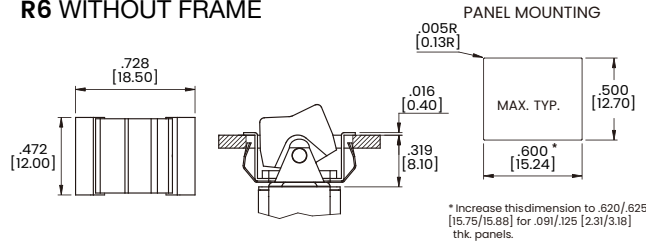


## Actuator Options for Snap-In Mount

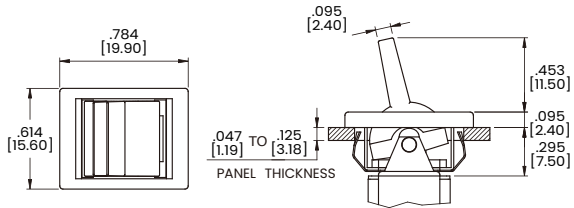
R6



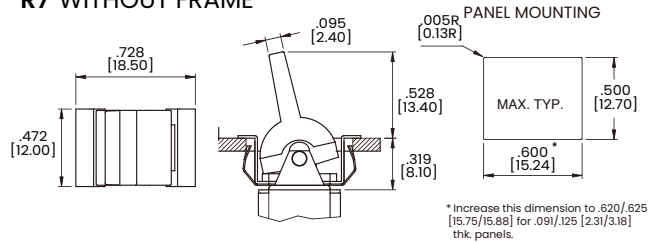
R6 WITHOUT FRAME



R7

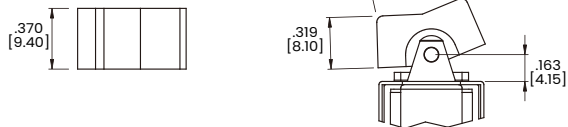


R7 WITHOUT FRAME

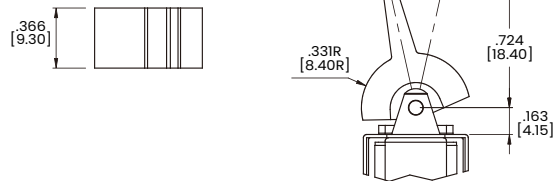


## Actuator Options for PC Mount

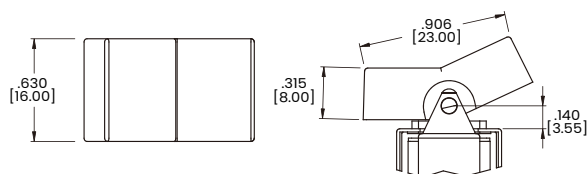
R1



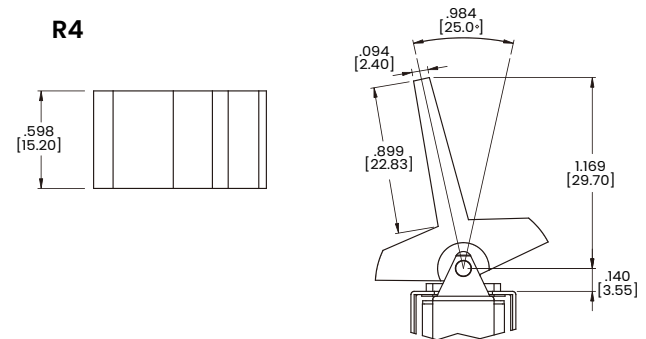
R2



R3



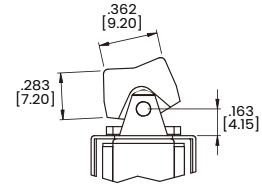
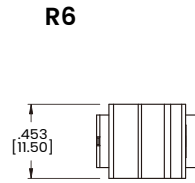
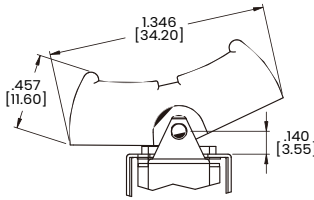
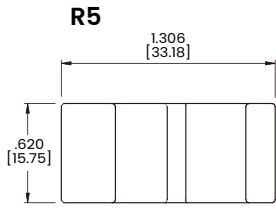
R4



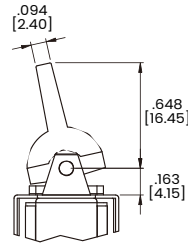
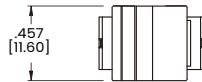
# Dimensional Specs

inches [millimeters]

## Actuator Options for PC Mount

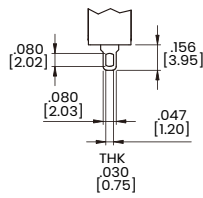


**R7**

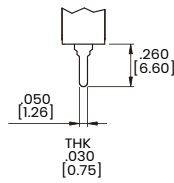


## Termination Options

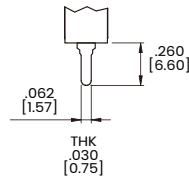
**M1 Standard Solder Lug**



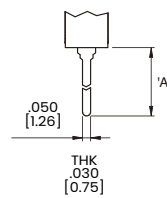
**M2 PC Thru-Hole**



**M3 Quick Connect**

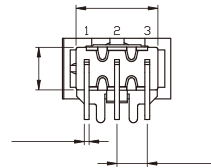
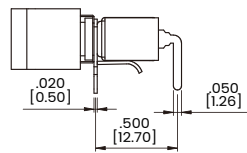
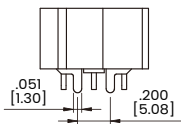


**M5 Wire Wrap**

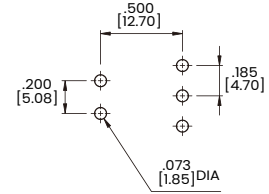


OPTION CODE	DIM. 'A'
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]
M5-4	1.062 [26.97]

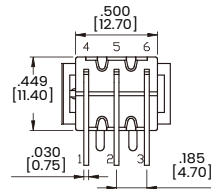
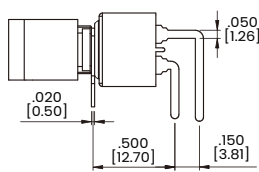
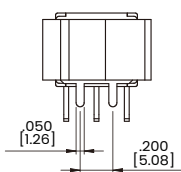
**M6 Single Pole**



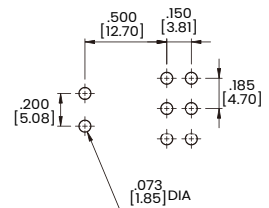
**P.C.MOUNTING**



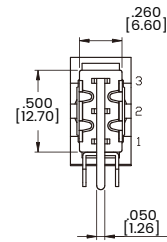
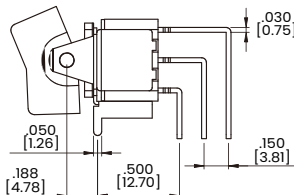
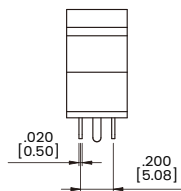
**M6 Double Pole**



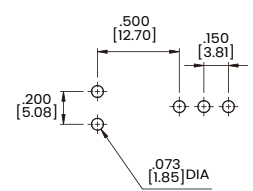
**P.C.MOUNTING**



**M7 Single Pole**



**P.C.MOUNTING**



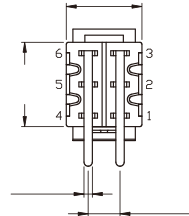
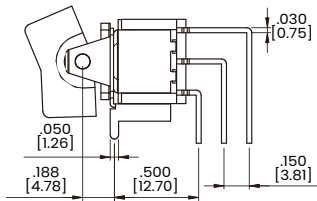
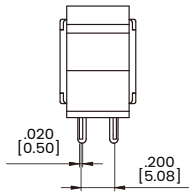


# Dimensional Specs

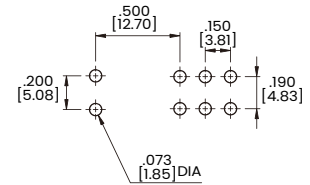
inches [millimeters]

## Termination Options

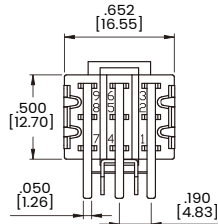
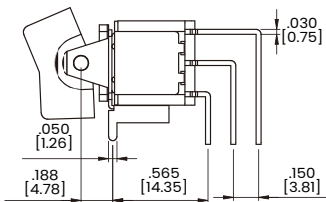
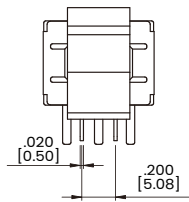
### M7 Double Pole



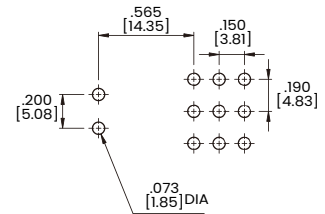
### P.C.MOUNTING



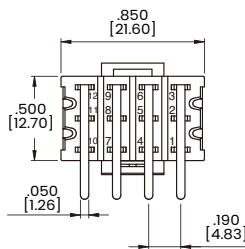
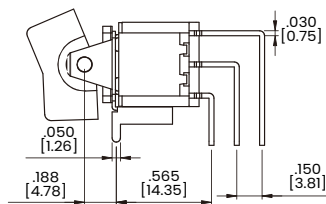
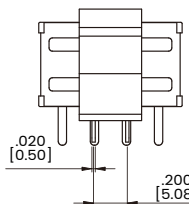
### M7 Three Pole



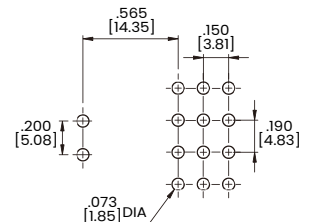
### P.C.MOUNTING



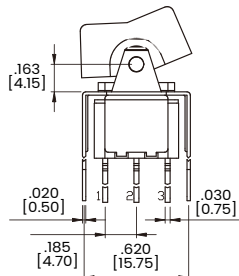
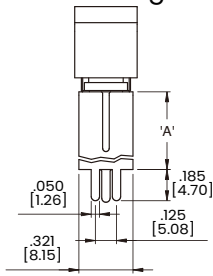
### M7 Four Pole



### P.C.MOUNTING

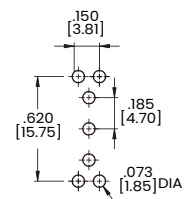


### VS2-VS3 Single Pole

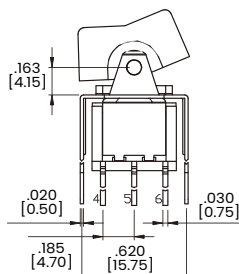
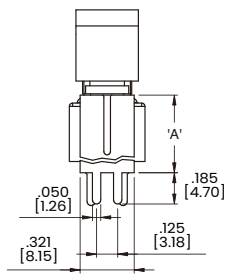


OPTION CODE	DIM. 'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

### P.C.MOUNTING

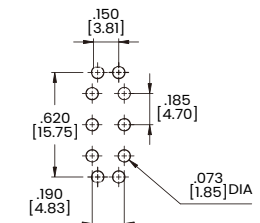


### VS2-VS3 Double Pole



OPTION CODE	DIM. 'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

### P.C.MOUNTING

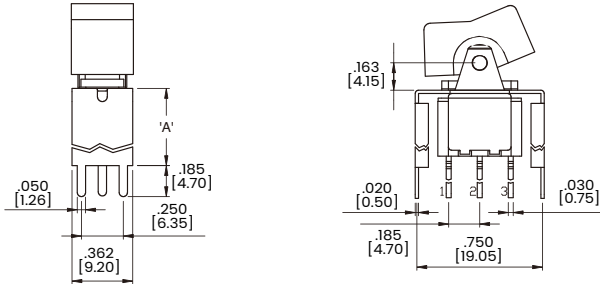


# Dimensional Specs

inches [millimeters]

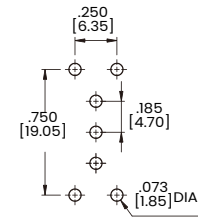
## Termination Options

### VS4-VS5 Single Pole

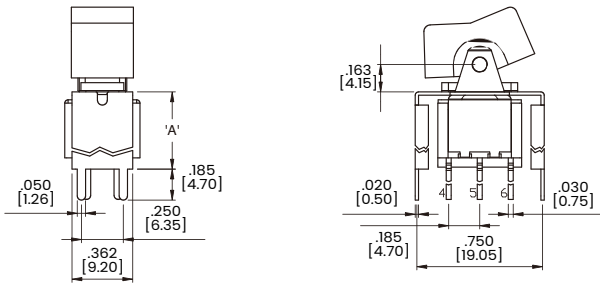


OPTION CODE	DIM.'A'
<b>VS4</b>	.461 [11.70]
<b>VS5</b>	.630 [16.00]

### P.C.MOUNTING

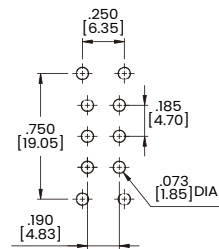


### VS4-VS5 Double Pole

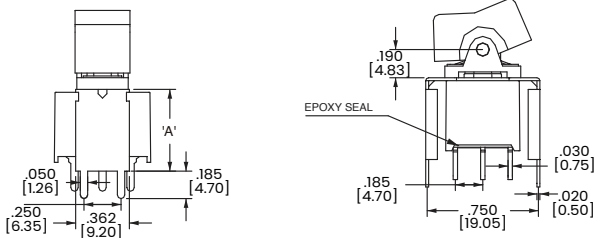


OPTION CODE	DIM.'A'
<b>VS4</b>	.461 [11.70]
<b>VS5</b>	.630 [16.00]

### P.C.MOUNTING

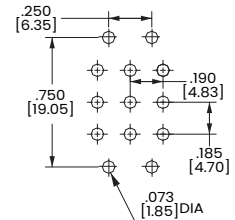


### U4-VS5 Three Pole



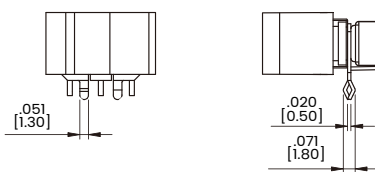
OPTION CODE	DIM.'A'
<b>U4</b>	.551 [14.00]
<b>VS5</b>	.630 [16.00]

### P.C.MOUNTING

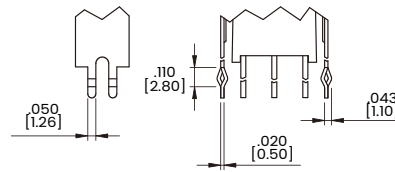


## Snap-In Termination Options

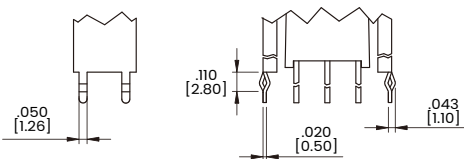
### M61



### VS21, VS31



### VS41, VS51



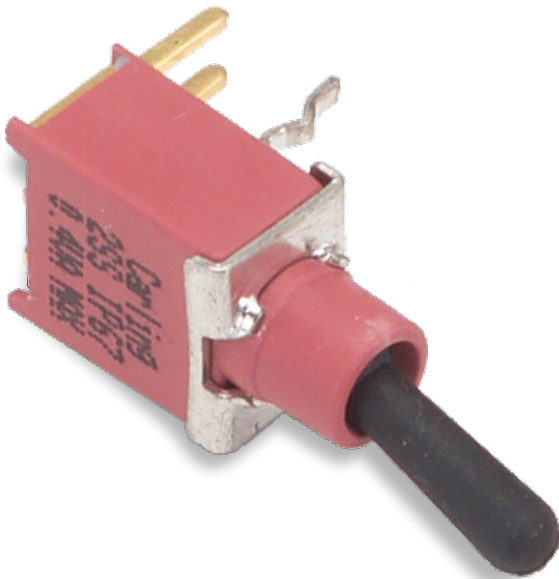
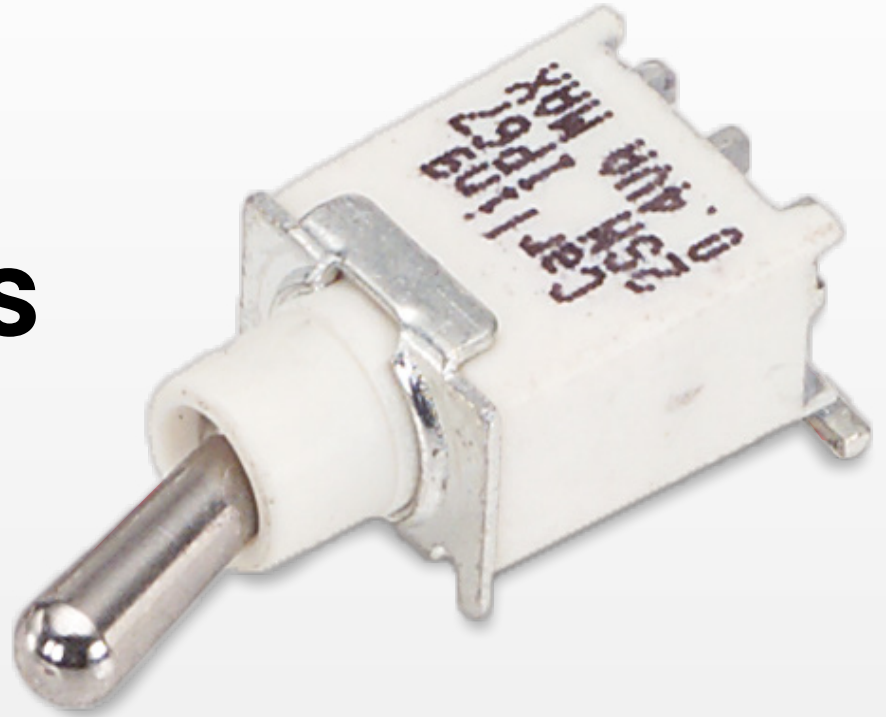
\* PC Mounting for M61, VS21, VS31, VS41, VS51 refer to M6, VS2, VS3, VS4, VS5 respectively.

# 2S-Series

Miniature Toggles Switches

[PRODUCT WEBPAGE](#)

*request sample, configure part*



The 2S family of sub-miniature toggle switches is composed of three switch series; the 2S1-Series toggle switch, the 2SS-Series sealed toggle switch, and the 2SM-Series surface mount sealed sub-miniature toggle switch. All of these series offer a variety of ratings, circuits, contact materials, terminal platings, and actuator types.

**1-2**  
Poles

**.4-3**  
Amps

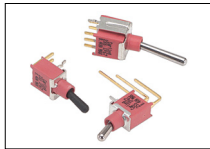
**125, 250**  
VAC

**28**  
VDC

## Typical Applications

- Instrumentation
- Telecommunications
- Networking
- Medical Equipment
- Military

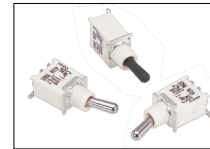
# Tech Specs



**2SS-Series**  
Sealed  
Sub-Miniature  
Toggle Switch



**2SI-Series**  
Sub-Miniature  
Toggle Switch



**2SM-Series**  
Sealed Surface Mount  
Sub-Miniature  
Toggle Switch

## Electrical

Contact Rating	refer to ordering scheme
Electrical Life	30,000 make & break cycles @ full load
Contact Resistance	20 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts
Insulation Resistance	1000 MΩ min.
Dielectric Strength	1500 Volts RMS @ sea level

## Physical

Operating Temperature	-30°C to +85°C
Index of Protection	2SS & 2SM-Series: IP67
Solder Heat Resistance	MIL-STD-202, Method 210
Actuator Travel	25°

## Material

Case	all UL94 V-0 <b>2SI-Series:</b> Dially phthalate (DAP) <b>2SS-Series:</b> Glass filled nylon 6/6, flame retardant, heat stabilized <b>2SM-Series:</b> Glass filled nylon 4/6, flame retardant, heat stabilized
Rocker	<b>2SI-Series:</b> Brass, chrome plated. <b>2SS &amp; 2SM-Series:</b> Brass, chrome plated or nylon, internal o-ring seal
Bushing	<b>2SI-Series:</b> Brass, nickel plated <b>2SS-Series:</b> Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0) <b>2SM-Series:</b> Glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0)
Housing	Stainless Steel
Switch Support	Brass, tin plated
Terminal Seal	Epoxy

# Ordering Scheme

Sample Part Number 2SS - MSP 1 - T1 - B4 - M6 G E

Selection 1 2 3 4 5 6 7 8

### 1. SERIES

**2SS** Sealed Sub-Miniature Toggle Switch

### 2. POLES

**MSP** Single pole - uses terminals 1, 2 & 3  
**MDP** Double pole - uses terminals 1, 2, 3, 4, 5 & 6

### 3. CIRCUIT

( ) - momentary  
Position: **1** **2** **3**

<b>1</b>	2-3, 5-6	Connected Terminals	2-1, 5-4
<b>2</b>	ON	NONE	ON
<b>3</b>	ON	NONE	(ON)
<b>4</b>	(ON)	OFF	ON
<b>5</b>	ON	OFF	(ON)

### 4. ACTUATOR STYLE / LENGTH

<b>T1</b>	Round toggle .421" [10.70 mm]	<b>P2</b>	ESD resistant toggle .268" [6.80 mm]
<b>T2</b>	Round toggle .240" [6.10 mm]	<b>P3</b>	ESD resistant toggle .244" [6.20 mm]
<b>T3</b>	Round toggle .342" [8.70 mm]	<b>P4</b>	ESD resistant toggle .291" [7.40 mm]
<b>T4</b>	Round toggle .551" [14.00 mm]		
<b>P1</b>	ESD resistant toggle .425" [10.80 mm]		

### 5. BUSHING

**B1** Threaded **B4** Unthreaded

### 6. TERMINATION

<b>M1</b> Solder Lug	<b>M7</b> PC Mount, 90° vertical
<b>M2</b> PCB	<b>M71</b> Snap-In, U bracket, 90° horizontal
<b>M6</b> PC Mount, 90° horizontal	<b>VS2</b> PC Mount, U bracket
<b>M61</b> Snap-In, U bracket, 90° horizontal	<b>VS21</b> Snap-In, U bracket

### 7. CONTACTS / TERMINALS

Contact	Material	Terminal Plating	Rating	Approvals
<b>G</b>	silver <sup>1</sup>	gold over silver	3A 125VAC or 28VDC, 1.5A 250VAC	IP67
<b>K</b>	gold <sup>2</sup>	tin <sup>3</sup>	0.4VA max 20V max (AC/DC)	IP67
<b>P</b>	silver <sup>1</sup>	tin <sup>3</sup>	3A 125VAC o28VDC, 1.5A 250VAC	IP67
<b>R</b>	gold <sup>2</sup>	gold <sup>2</sup>	0.4VA max 20V max (AC/DC)	IP67

### 8. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

#### Notes:

- Tin option not available with M1 terminal.
- 1 Movable contact & terminal platings: silver over copper alloy
- 2 Movable contact & terminal platings: gold over nickel over copper alloy
- 3 Terminal platings: tin over nickel over copper alloy

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

# Ordering Schemes

Sample Part Number 2S1 - MSP 1 - T1 - B4 - M6 Q E

Selection 1 2 3 4 5 6 7 8

## 1. SERIES

**2S1** Sub-Miniature Toggle Switch

## 2. POLES

**MSP** Single pole - uses terminals 1, 2 & 3  
**MDP** Double pole - uses terminals 1, 2, 3, 4, 5 & 6

## 3. CIRCUIT

( ) - momentary

Position:	1	2	3
	2-3, 5-6	Connected Terminals	2-1, 5-4
<b>1</b>	ON	NONE	ON
<b>2</b>	ON	NONE	(ON)
<b>3</b>	ON	OFF	ON
<b>4</b>	(ON)	OFF	(ON)
<b>5</b>	ON	OFF	(ON)

## 4. ACTUATOR STYLE

**T1** Round toggle .374" [9.50 mm]    **T4** Round toggle .449" [11.40 mm]  
**T3** Round toggle .311" [7.90 mm]  
**T2** Round toggle .236" [6.00 mm]

## 5. BUSHING

**B1** Threaded Standard, keyway    **B5** High Torque, flat, .276"  
**B2** Non-Threaded Standard, keyway    **B6** High Torque, keyway, .276"  
**B3** Threaded Short, keyway    **B7** Long threaded  
**B4** Non-Threaded Short, keyway    **B8** Non threaded Long, keyway

[Configure Complete Part Number >](#)    [Browse Standard Parts >](#)

## 6. TERMINATION

**M1** Solder Lug    **M6** PC Mount, 90° horizontal  
**M71** Right Angle PC Thru Hole, vertical    **VS21** Snap-In, U bracket  
**M2** PCB    **M61** Snap-In, Right Angle  
**VS2** PC Mount, U bracket    **M7** PC Mount, 90° vertical

## 7. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
<b>G</b> silver <sup>2</sup>	gold over silver	3A 125VAC or 28VDC, 1.5A 250VAC	UL, CE
<b>K<sup>8</sup></b> gold <sup>3,6</sup>	tin <sup>5</sup>	0.4VA max 20V max (AC/DC)	N/A
<b>P<sup>8</sup></b> silver <sup>2,7</sup>	tin <sup>5</sup>	3A 125VAC or 28VDC,	UL, CE
<b>Q</b> silver <sup>2</sup>	1.5A 250VAC	3A 125VAC or 28VDC	UL, CE
	silver <sup>2</sup>		
<b>R</b> gold <sup>3</sup>	1.5A 250VAC	0.4VA max 20V max (AC/DC)	N/A
	gold <sup>4</sup>		

## 8. EPOXY SEAL

**E** Epoxy Seal    **0** without Epoxy Seal

Notes: Tin option available with PC type terminations only.

- All Switches come with standard nut, washer and locking ring shipped bulk. B5 & B7 ushing styles use small locking ring. See page 76-77
- Movable contact and terminal platings: silver over copper alloy
- Movable contact and terminal platings: gold over nickel over copper alloy
- Terminal platings: gold over nickel over copper alloy
- Terminal platings: tin over copper alloy
- Terminal contact platings: gold over nickel alloy
- Terminal contact platings: silver over nickel alloy
- Not available with M1 terminal
- Lengths shown are with B1 - B4 bushings. For B5 & B6 subtract .108", for B7 & B8 subtract .043"

Sample Part Number 2SM - MSP 1 - T1 - M6 G E T/R

Selection 1 2 3 4 5 6 7 8

## 1. SERIES

**2M1** Miniature Toggle Switch

## 2. POLES

**MSP** Single pole - uses terminals 1, 2 & 3

## 3. CIRCUIT

( ) - momentary

Position:	1	2	3
	2-3	Connected Terminals	2-1
<b>1</b>	ON	NONE	ON
<b>2</b>	ON	NONE	(ON)
<b>3</b>	ON	OFF	ON
<b>4</b>	(ON)	OFF	(ON)
<b>5</b>	ON	OFF	(ON)

## 4. ACTUATOR STYLE / LENGTH

**T1** Round toggle .425" [10.80 mm]    .244" [6.20 mm]  
**T2** Round toggle .240" [6.10 mm]    **P4** ESD resistant plastic toggle .291" [7.40 mm]  
**P1** ESD resistant plastic toggle .425" [10.80 mm]  
**P2** ESD resistant plastic toggle .268" [6.80 mm]  
**P3** ESD resistant plastic toggle

## 5. TERMINATION

**K6** Surface Mount, .433" [11.00 mm]    **M7** Surface Mount, 90° vertical  
**L6** Surface Mount, .354" [9.00 mm]    **S6** Surface Mount, 90°, .353" [8.96 mm]  
**M6** Surface Mount, 90° flat, .2X86" [7.26 mm]    See dimensional specifications.

## 6. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
<b>G</b> silver <sup>2</sup>	gold over silver	3A 125VAC or 28VDC, 1.5A 250VAC	IP67
<b>K</b> gold <sup>3</sup>	tin <sup>4</sup>	0.4VA max 20V max (AC/DC)	IP67
	tin <sup>4</sup>		
<b>P</b> silver <sup>2</sup>	1.5A	3A 125VAC or 28VDC, 250VAC	IP67
	silver <sup>2</sup>		
<b>Q</b> silver <sup>2</sup>	1.5A	3A 125VAC or 28VDC, 250VAC	IP67
	gold <sup>3</sup>		
<b>R</b> gold <sup>3</sup>	gold <sup>3</sup>	0.4VA max 20V max (AC/DC)	IP67

## 7. EPOXY SEAL

**E** Epoxy Seal    **0** without Epoxy Seal

## 8. PACKAGING

**T/R** tape reel - 500 pieces per reel  
Switches are bulk packed, unless T/R is specified at the end of the part number.

Notes:

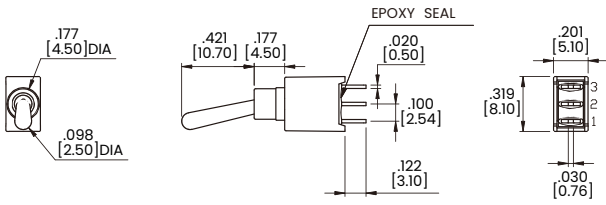
- Tin option available with PC type terminations only.
- Bushing is unthreaded .177" [4.50 mm] height
- Movable contact & terminal platings: silver over copper alloy
- Movable contact & terminal platings: gold over nickel over copper alloy
- Terminal platings: tin over nickel over copper alloy

[Configure Complete Part Number >](#)    [Browse Standard Parts >](#)

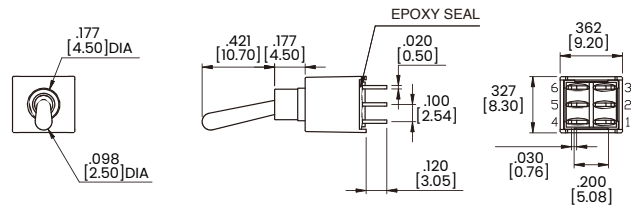
# Dimensional Specs

inches [millimeters]

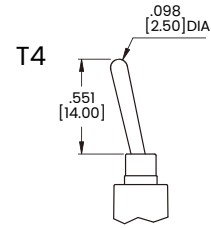
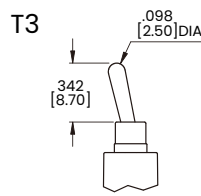
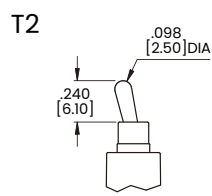
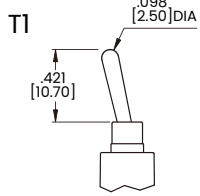
## Single Pole



## Double Pole

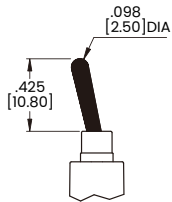


## Actuator Options

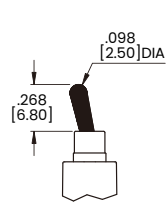


\* B4 bushing shown. Subtract 2.55mm from toggle length for B1 bushing.

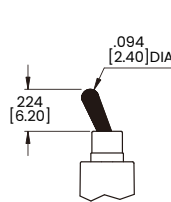
## P1 Plastic Toggle



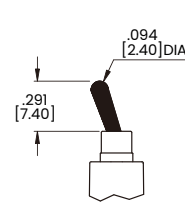
## P2 Plastic Toggle



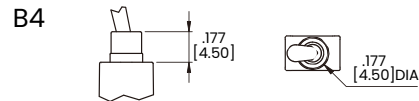
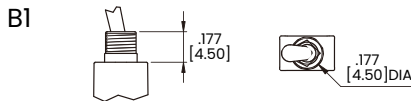
## P3 Plastic Toggle



## P4 Plastic Toggle



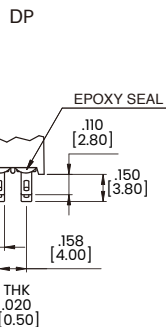
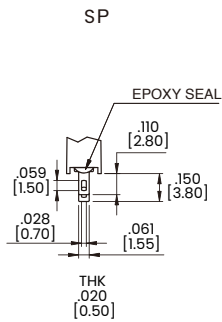
## Bushing Options



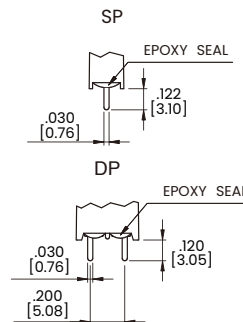
\* Subtract 2.55mm from toggle length for B1 bushing.

## Termination Options

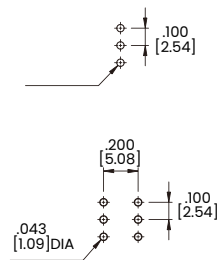
### M1 STD. Solder Lug



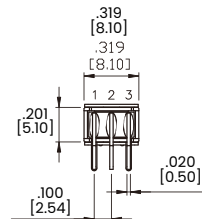
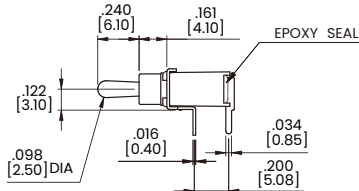
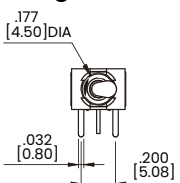
### M2 PC Thru-Hole



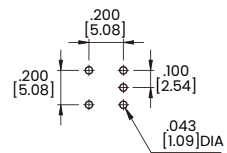
### P.C.MOUNTING



## M6 Single Pole



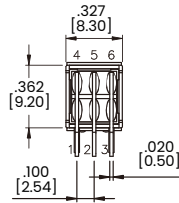
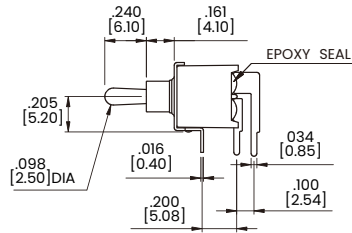
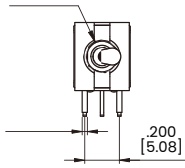
### P.C.MOUNTING



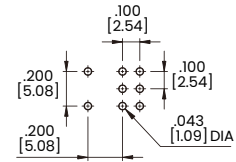
# Dimensional Specs

inches [millimeters]

## M6 Double Pole

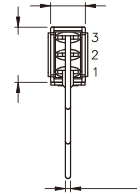
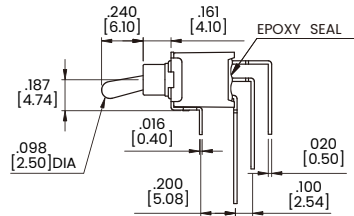
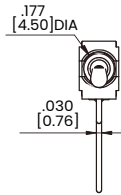


## P.C.MOUNTING

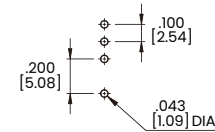


## Termination Options

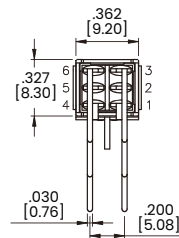
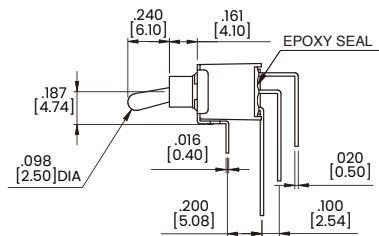
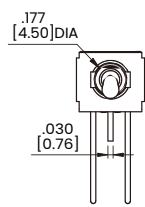
## M7 Single Pole



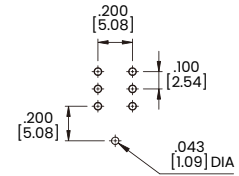
## P.C.MOUNTING



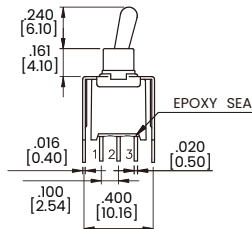
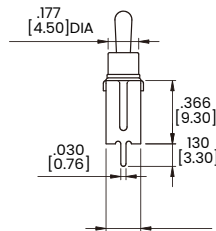
## M7 Double Pole



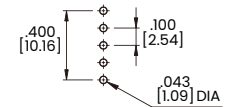
## P.C.MOUNTING



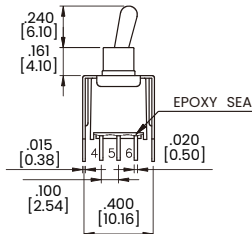
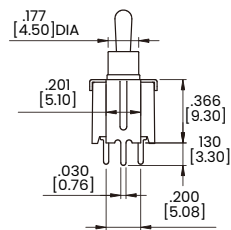
## VS2 Single Pole



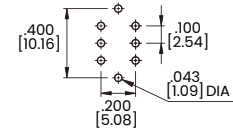
## P.C.MOUNTING



## VS2 Double Pole

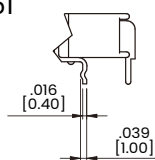


## P.C.MOUNTING

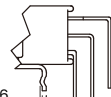
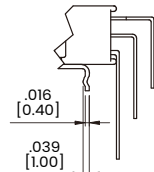


## Snap-In Termination Options

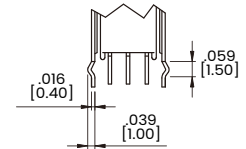
### M61



### M71



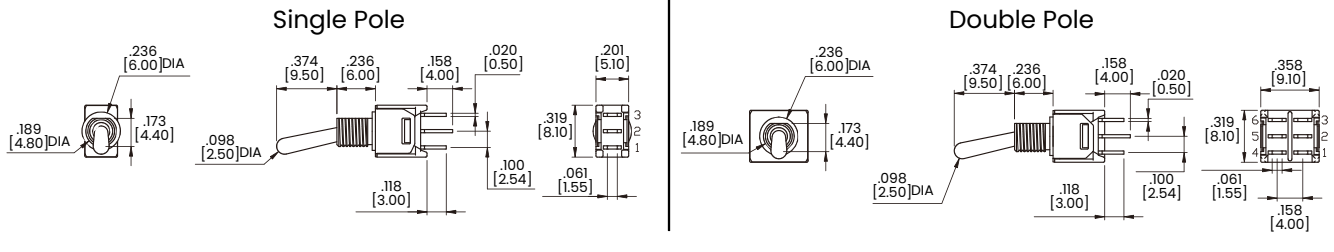
### VS21



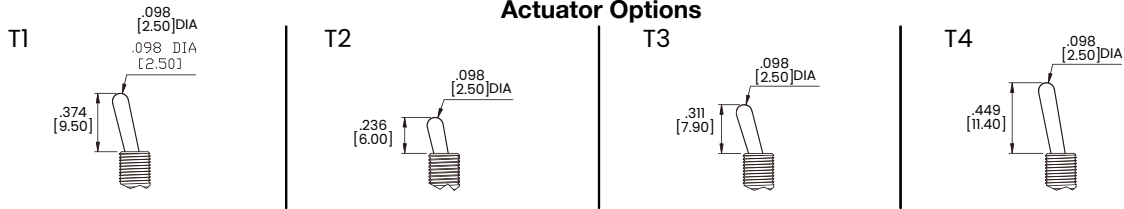
\* PC Mounting for M61,M71,VS21 refer to M6,M7,VS2 respectively.

# Dimensional Specs

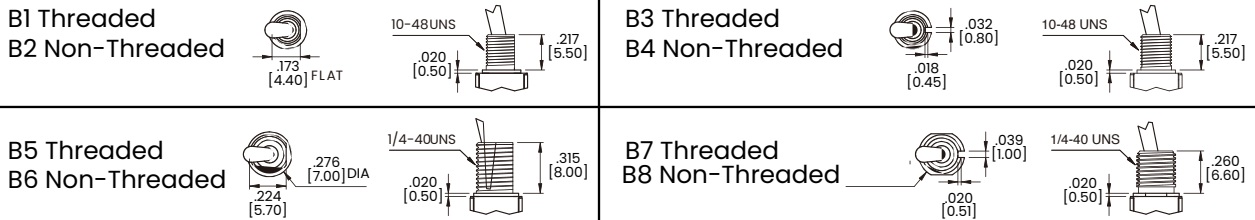
inches [millimeters]



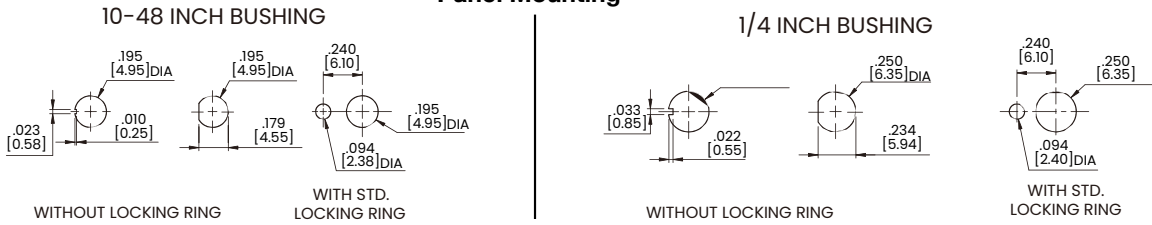
## Actuator Options



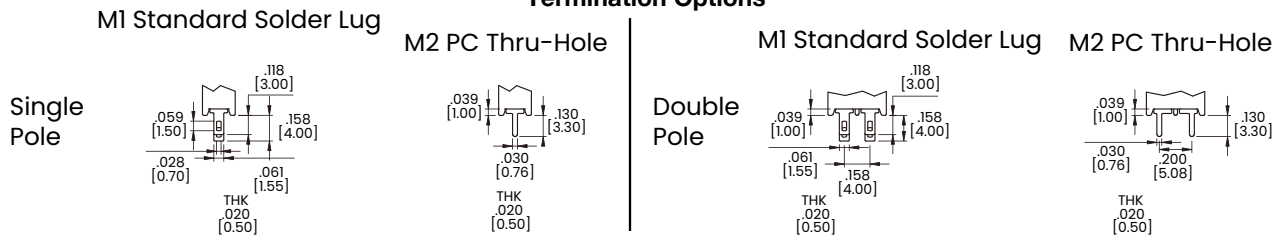
## Bushing Options



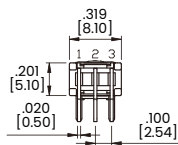
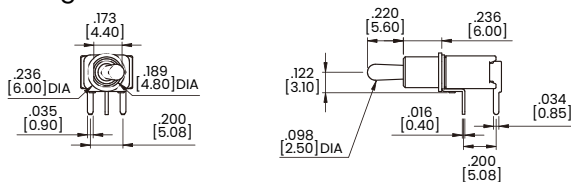
## Panel Mounting



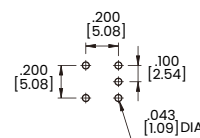
## Termination Options



## M6 Single Pole



## P.C. MOUNTING



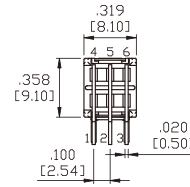
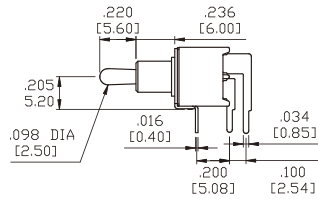
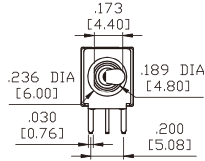


# Dimensional Specs

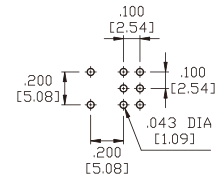
inches [millimeters]

## Termination Options

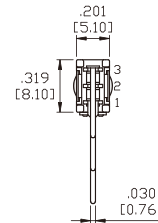
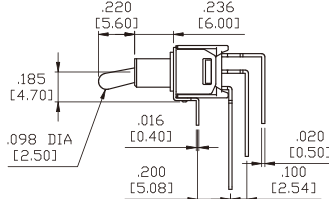
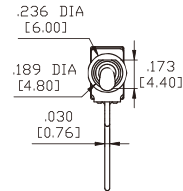
### M6 Double Pole



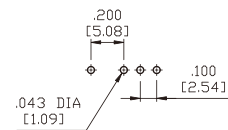
### P.C.MOUNTING



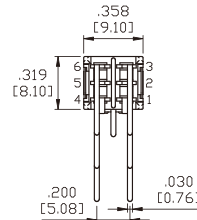
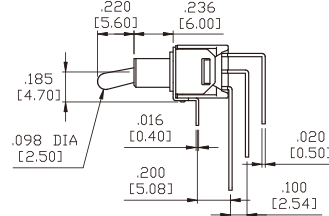
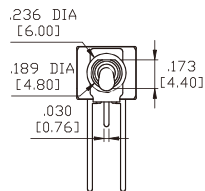
### M7 Single Pole



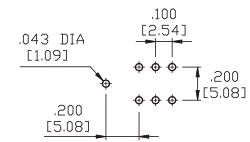
### P.C.MOUNTING



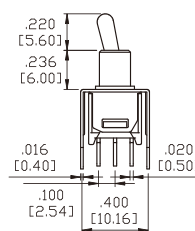
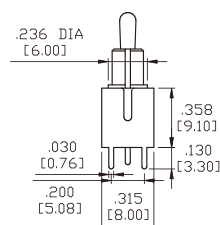
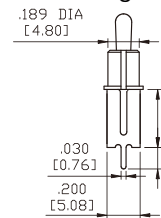
### M7 Double Pole



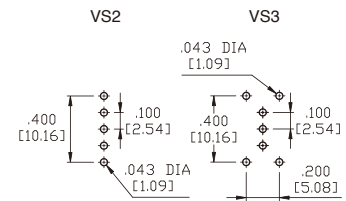
### P.C.MOUNTING



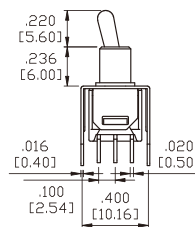
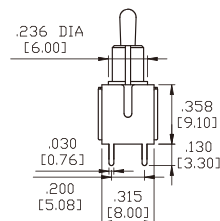
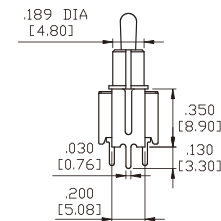
### VS2-VS3 Single Pole



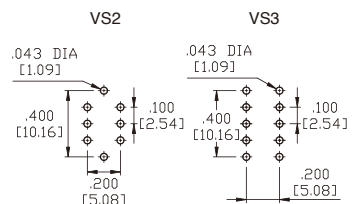
### P.C.MOUNTING



### VS2-VS3 Double Pole

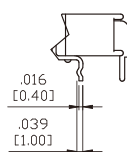


### P.C.MOUNTING

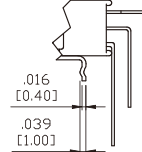


## Snap-In Termination Options

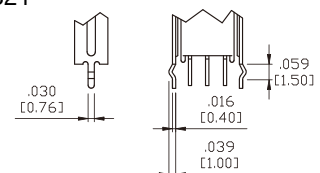
### M61



### M71



### VS21

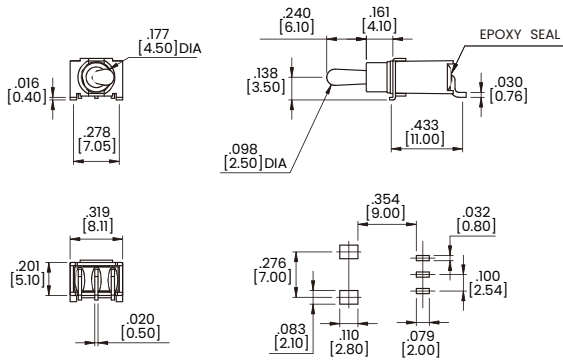


\* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.

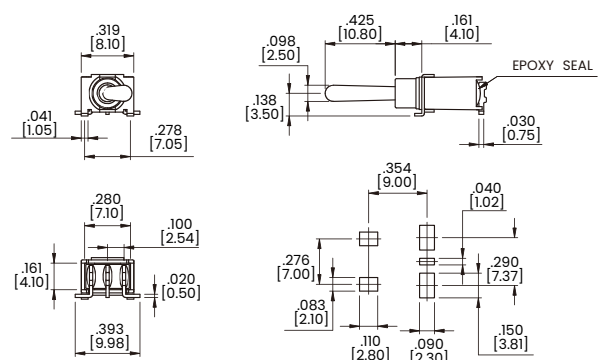
# Dimensional Specs

inches [millimeters]

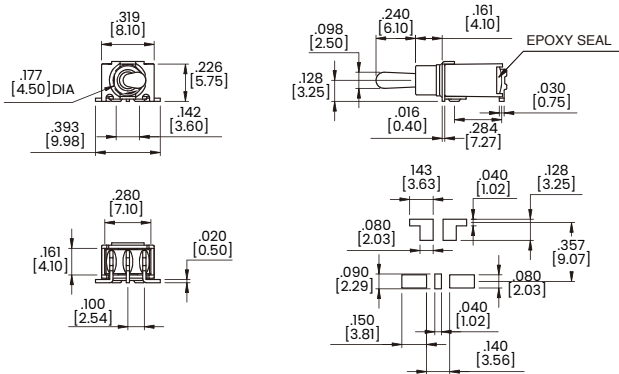
## K6 Single Pole



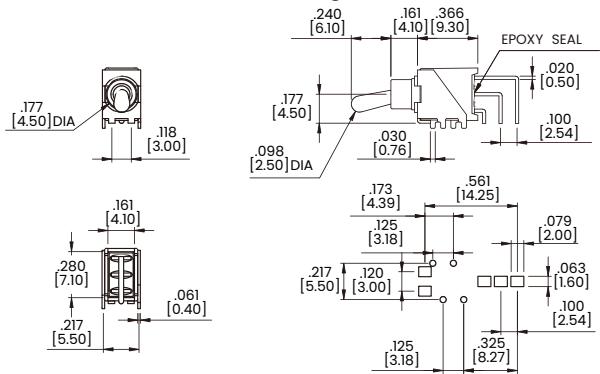
## L6 Single Pole



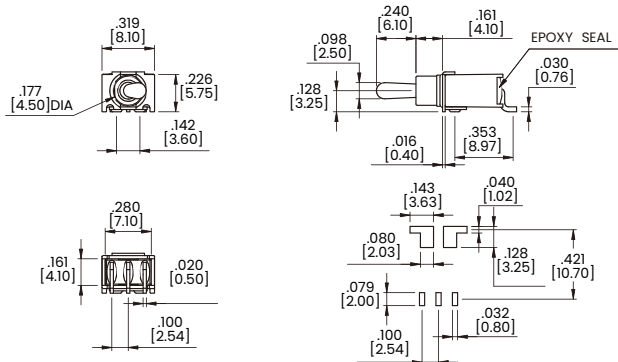
## M6 Single Pole



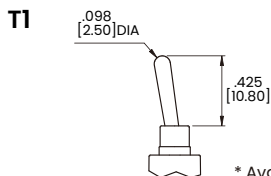
## M7 Single Pole



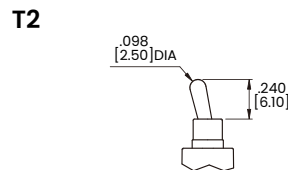
## S6 Single Pole



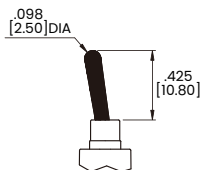
## Actuator Options



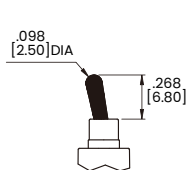
\* Available with L6, S6, K6, M7 terminals only.



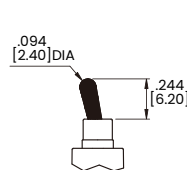
## P1 Plastic Toggle



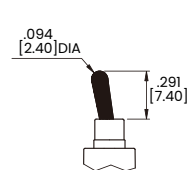
## P2 Plastic Toggle



## P3 Plastic Toggle



## P4 Plastic Toggle

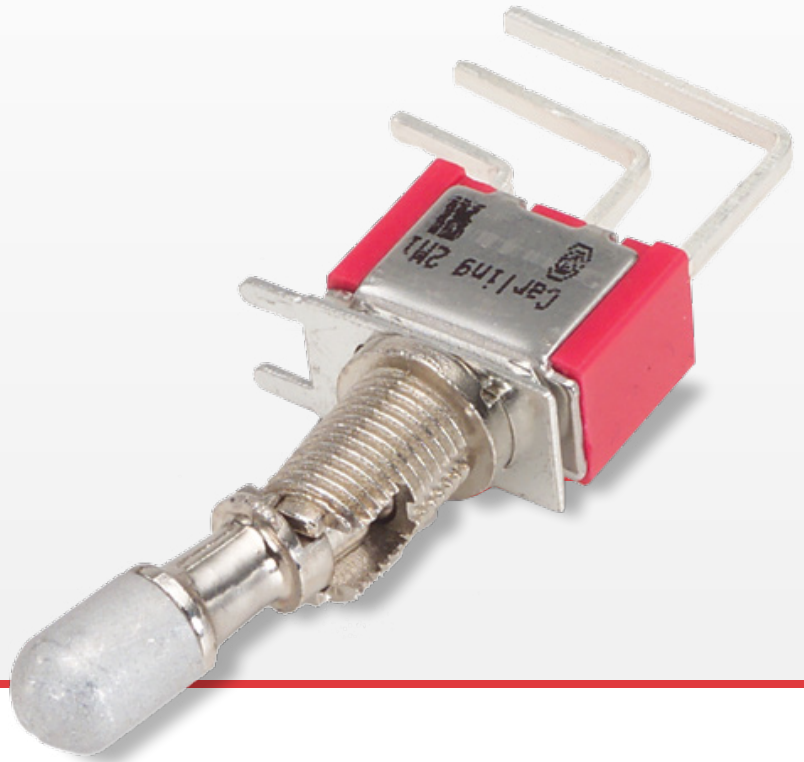


# 2M-Series

Miniature Toggles Switches

**PRODUCT WEBPAGE**

*request sample, configure part*



The 2M family of miniature toggle switches is composed of three switch series; the 2M1-Series miniature toggle switch, the 2MS-Series sealed miniature toggle switch, and the 2M1H-Series premium sealed miniature toggle switch. These series all feature PC mounting and offer a variety of ratings, circuits, contact materials, terminal platings, toggle styles and lengths, and optional color caps.

<b>1-2</b>	<b>.4-5</b>	<b>125, 250</b>	<b>28</b>
Poles	Amps	VAC	VDC

## Typical Applications

- Instrumentation
- Telecommunications
- Networking
- Medical Equipment
- Military

# Tech Specs



**2MIH-Series**  
Premium Sealed  
Miniature  
Toggle Switch



**2MS-Series**  
Sealed  
Miniature  
Toggle



**2MI-Series**  
Miniature  
Toggle Switch

## Electrical

Contact Rating	refer to ordering scheme
Electrical Life	50,000 make & break cycles @ full load
Contact Resistance	10 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts
Insulation Resistance	1000 MΩ min.
Dielectric Strength	1500 Volts RMS @ sea level

## Physical

Operating Temperature	-30°C to +85°C
Index of Protection	<b>2MIH-Series:</b> IP67 <b>2MS-Series:</b> IP67
Solder Heat Resistance	MIL-STD-202, Method 210
Actuator Travel	25°

## Material

Case	<b>2MIH-Series &amp; 2MI-Series:</b> Dially phthalate (DAP) (UL 94V-0) <b>2MS-Series:</b> Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0)
Toggle	<b>2MIH-Series:</b> Brass, black finish with o-ring seal <b>2MS-Series:</b> Brass, chrome plated, internal o-ring sealed <b>2MI-Series:</b> Brass, chrome plated
Bushing	<b>2MIH-Series:</b> Brass, black finish with o-ring seal <b>2MS-Series:</b> Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0) <b>2MI-Series:</b> Brass, nickel plated
Housing	Stainless Steel
Bracket	<b>2MS-Series:</b> Nylon (UL 94V-0) <b>2MI-Series:</b> Stainless Steel
Actuator Retainer	<b>2MS-Series:</b> Stainless Steel
Switch Support	Brass, tin plated
Terminal Seal	Epoxy

# Ordering Scheme

Sample Part Number 2MIH - DP1 TJ - BK - M2 R E

Selection 1 2 3 4 5 6 7

### 1. SERIES

**2MIH** Premium Sealed Miniature Toggle Switch

### 2. POLES / CIRCUIT

( ) - momentary			
Position:	1	2	3
	2-3, 5-6	Connected Terminals	2-1, 5-4
SP1	ON	NONE	ON
SP2	ON	NONE	(ON)
SP3	ON	OFF	ON
SP4	(ON)	OFF	(ON)
SP5	ON	OFF	(ON)
DP1	ON	NONE	ON
DP2	ON	NONE	(ON)
DP3	ON	OFF	ON
DP4	(ON)	OFF	(ON)
DP5	ON	OFF	(ON)
DP6 *	ON	ON	ON
DP7 *	(ON)	ON	(ON)
DP8 *	ON	ON	(ON)

\*Center position connects 2-3, 5-4

### 3. ACTUATOR STYLE

**TJ** .709" [18 mm] length **TK** .512" [13.00 mm] length

### 4. BUSHING

**BK** .386" [9.80 mm] threaded, flat

### 5. TERMINATION <sup>7</sup>

<b>M1</b> Solder Lug	<b>M51</b> Wire Wrap, .750" [19.05mm] length
<b>M2</b> PCB	<b>M52</b> Wire Wrap, .964" [24.48mm] length
<b>M3</b> Quick Connect	<b>M53</b> Wire Wrap, .425" [10.80mm] length
	<b>M54</b> Wire Wrap, 1.062" [25.97mm] length

### 6. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
<b>G</b> silver <sup>1</sup>	gold over silver	5A 125VAC or 28VDC, 2A 250VAC	IP67
<b>K</b> gold <sup>2,5</sup>	tin <sup>4,7</sup>	0.4VA max 20V max (AC/DC)	IP67
<b>P</b> silver <sup>1,6</sup>	tin <sup>4,7</sup>	5A 125VAC or 28VDC, 2A 250VAC	IP67
<b>Q</b> silver <sup>1</sup> silver <sup>1</sup>	5A	125VAC or 28VDC, 2A 250VAC	IP67
<b>R</b> gold <sup>2</sup> gold <sup>3</sup>	0.4VA max	20V max (AC/DC)	IP67

### 7. EPOXY SEAL

**E** Epoxy Seal

Notes: Switches supplied with (1) 2MI-HDW4 hex nut and (1) 3MNH-WCP-0872 O-Ring  
 1 Movable contact and terminal platings: silver over copper alloy  
 2 Movable contact and terminal platings: gold over nickel over copper alloy  
 3 Terminal platings: gold over nickel over copper alloy  
 4 Terminal platings: tin over copper alloy  
 5 Terminal contact platings: gold over nickel alloy  
 6 Terminal contact platings: silver over nickel alloy  
 7 Tin option not available with M1 & M3 terminations.

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

# Ordering Scheme

Sample Part Number **2MS - WSP 1 - T1 - B4 - M1 G E**

Selection 1 2 3 4 5 6 7 8

## 1. SERIES

**2MS** Sealed Miniature Toggle Switch

## 2. POLES

**WSP** Single pole - uses terminals 1, 2 & 3  
**WDP** Double pole - uses terminals 1, 2, 3, 4, 5 & 6  
**W3P** Three pole - uses terminals 1, 2, 3, 4, 5, 6, 7, 8 & 9

## 3. CIRCUIT

( ) - momentary  
**Position:** **1** **2** **3**  
 2-3, 5-6 Connected Terminals 2-1, 5-4  
**1** ON NONE ON  
**2** ON NONE (ON)  
**3** ON OFF ON  
**4** (ON) OFF (ON)  
**5** ON OFF (ON)

## 4. ACTUATOR STYLE

**T1** Round Bat **P1** Plastic Anti-Static .496" length  
**T2** Round Short Bat **P2** Plastic Anti-Static .299" length  
**T9** Long Black Plastic .492" length

## 5. BUSHING

**B1** Threaded, Keyway **B4** Unthreaded, Short, Keyway, Flat

Notes:  
 B1 Bushing switches supplied with (2) 2MI-HDW2 nuts, (1) 2MI-HDW11 washer and (1) 2MI-HDW15 locking ring. See page 76-77.  
 1 Movable contact & terminal platings: silver over copper alloy  
 2 Movable contact & terminal platings: gold over nickel over copper alloy  
 3 Terminal platings: tin over nickel over copper alloy  
 4 Tin option not available with M1 terminal

## 6. TERMINATION

**M1**<sup>4</sup> Solder Lug **VS21** Vertical, Snap-In, .460" [11.70mm]  
**M2** PCB **VS3** Vertical, .630" [16mm]  
**M3** Quick Connect **VS31** Vertical, Snap-In, .630" [16mm]  
**M51** Wire Wrap, .750" [19.05mm] **U2** Vertical, .551" [14mm] - only 3PDT  
**M52** Wire Wrap, .964" [24.48mm] **VS4** Vertical, .461" [11.70mm]  
**M53** Wire Wrap, .425" [10.80mm] **VS41** Vertical, Snap-In, .461" [11.70mm]  
**M54** Wire Wrap, 1.062" [25.97mm] **U4** Vertical, .551" [14mm] - only 3PDT  
**M6** Right Angle, PC Thru-Hole **VS5** Vertical, .630" [16mm]  
**M61** Right Angle, Snap-In **VS51** Vertical, Snap-In, .630" [16mm]  
**M7** Vertical, Right Angle, PC Thru-Hole  
**M71** Vertical, Right Angle, Snap-In  
**VS2** Vertical, .461" [11.70mm]

## 7. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
<b>G</b> silver <sup>1</sup>	gold over silver	5A 125VAC or 28VDC, 2A 250VAC	us, IP67
<b>K</b> gold <sup>2</sup>	tin 3, 4	0.4VA max 20V max (AC/DC)	IP67
<b>P</b> silver <sup>1</sup>	tin 3, 4	5A 125VAC or 28VDC, 2A 250VAC	us, IP67
<b>R</b> gold <sup>2</sup>	gold <sup>2</sup>	0.4VA max 20V max (AC/DC)	IP67

## 8. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

Sample Part Number **2M1 - SP 1 - T1 - B1 - M1 Q E**

Selection 1 2 3 4 5 6 7 8

## 1. SERIES

**2M1** Miniature Toggle Switch

## 2. POLES

**SP** Single pole - uses terminals 1, 2 & 3  
**DP** Double pole - uses terminals 1, 2, 3, 4, 5 & 6  
**3P** Three pole - uses terminals 1, 2, 3, 4, 5, 6, 7, 8 & 9  
**4P** Four pole - uses terminals 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 & 12

## 3. CIRCUIT

( ) - momentary  
**Position:** **1** **2** **3**  
 2-3, 5-6, 8-9, 11-12 Connected Terminals 2-1, 5-4, 8-7, 11-10  
**1** ON NONE ON  
**2** ON NONE (ON)  
**3** ON OFF ON  
**4** (ON) OFF (ON)  
**5** ON OFF (ON)  
**6\*** ON ON ON  
**7\*** (ON) ON (ON)  
**8\*** ON ON (ON)

\*Available with DP and 4P switches only. Center position connects 2-3, 5-4, 8-9, 11-10

## 4. ACTUATOR STYLE

**T1** Round Bat **T7** Large Bat (B0 bushing)  
**T2** Round Short Bat **T8** X-Large Bat (B0 bushing)  
**T3** Paddle **T9** Black Plastic  
**T4** Medium Paddle **T0** Rectangular  
**TA** Locking Lever **TA** Locking Lever  
**T5** Long Paddle **TI** Locking Lever  
**T6** Flat (B1,B2,B5,BA,BB,BE) **TL** Locking Lever

Notes: B1 Bushing switches supplied with (2) 2MI-HDW2 nuts, (1) 2MI-HDW11 washer and (1) 2MI-HDW15 locking ring.  
 1 Movable contact & terminal platings: silver over copper alloy  
 2 Movable contact & terminal platings: gold over nickel over copper alloy  
 3 Terminal platings: tin over nickel over copper alloy  
 4 Tin option not available with M1 terminal Movable contact & terminal platings: silver over copper alloy  
 5 Movable contact & terminal platings: gold over nickel over copper alloy  
 6 Terminal platings: tin over nickel over copper alloy  
 7 Tin option not available with M1 terminal

## 5. BUSHING

**B1** Threaded Standard, keyway **B9** Splashproof  
**B2** Non-Threaded Standard, keyway **B0** 15/32" Threaded (Standard for T7 & T8 actuator styles)  
**B3** Threaded Short, keyway **BA** Threaded for T6  
**B4** Non-Threaded Short, keyway **BB** Non-Threaded for T6  
**B5** High Torque, 7.5mm, flat **BE** Threaded Hi Torque for T6  
**B6** High Torque, 8.0mm, keyway **BL** Threaded, Locking  
**B7** Long threaded  
**B8** Metric

## 6. TERMINATION

**M1**<sup>4</sup> Solder Lug **VS21** Vertical, Snap-In, .460" [11.70mm]  
**M2** PCB **VS3** Vertical, .630" [16mm]  
**M3** Quick Connect **VS31** Vertical, Snap-In, .630" [16mm]  
**M51** Wire Wrap, .750" [19.05mm] **U2** Vertical, .551" [14mm] - only 3PDT  
**M52** Wire Wrap, .964" [24.48mm] **VS4** Vertical, .461" [11.70mm]  
**M53** Wire Wrap, .425" [10.80mm] **VS41** Vertical, Snap-In, .461" [11.70mm]  
**M54** Wire Wrap, 1.062" [25.97mm] **U4** Vertical, .551" [14mm] - only 3PDT  
**M6** Right Angle, PC Thru-Hole **VS5** Vertical, .630" [16mm]  
**M61** Right Angle, Snap-In **VS51** Vertical, Snap-In, .630" [16mm]  
**M7** Vertical, Right Angle, PC Thru-Hole  
**M71** Vertical, Right Angle, Snap-In  
**VS2** Vertical, .461" [11.70mm]

## 7. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
<b>G</b> silver <sup>1</sup>	gold over silver	5A 125VAC or 28VDC, 2A 250VAC	IP67
<b>K</b> gold <sup>2</sup>	tin 3, 4	0.4VA max 20V max (AC/DC)	N/A
<b>P</b> silver <sup>1</sup>	tin 3, 4	5A 125VAC or 28VDC, 2A 250VAC	IP67
<b>Q</b> silver <sup>1</sup>	silver <sup>1</sup>	5A 125VAC or 28VDC, 2A 250VAC	IP67
<b>R</b> gold <sup>2</sup>	gold <sup>2</sup>	0.4VA max 20V max (AC/DC)	N/A

## 8. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

# Ordering Scheme Accessories

## 2M-Series Accessories

To order accessories assembled on a switch, specify the switch number followed by the accessory part number and the word "assembled".  
Ex: 2M1-SPI-T1-BI-MIQE-T12 ASSEMBLED. To order accessories in bulk, specify the Series, followed by the accessory. Ex: 2M1-T12. See page 76 for dimensional specifications.

## Optional Toggle Cap

Sample Part Number 2M1 - T1 2  
Selection 1 2 3

### 1. SERIES

**2M1** Fits 2MIH, 2MS or 2M1

### 2. TOGGLE CAP SIZE

**T1** 10.6 mm      **T2** 7.6 mm

### 3. CAP COLOR

1	White	5	Yellow
2	Black	6	Green
3	Red	7	Blue

## Optional Dress and Knurled Nuts

Sample Part Number 2M1 - HDW3  
Selection 1 2

### 1. SERIES

**2M1** Fits 2MIH, 2MS or 2M1

### 2. NUT

**HDW3** Dress nut for 1/4" bushing  
**HDW5** Knurled nut for 15/32" bushing (2M1-Series only)

## Optional Rubber Seals

Sample Part Number 2M1 - E1A  
Selection 1 2

### 1. SERIES

**2M1** Fits 2MIH, 2MS or 2M1

### 2. RUBBER BOOT SEAL

**E1A** 1/4 - 40" UNS bushing (Not available for B0 bushing option)  
**K1** Metric M6 bushing (B8 bushing only)  
**YE1D** 15/32 - 32" UNS bushing (TJ, TK and B0 bushings only)  
**YE1E** 15/32 - 32" UNS bushing 1/2 boot (T7, T8, TJ, TK and B0 bushings only)

Sample Part Number 3MNH - WCP-0872  
Selection 1 2

### 1. SERIES

**3MNH** Fits 3MNH or 2MIH

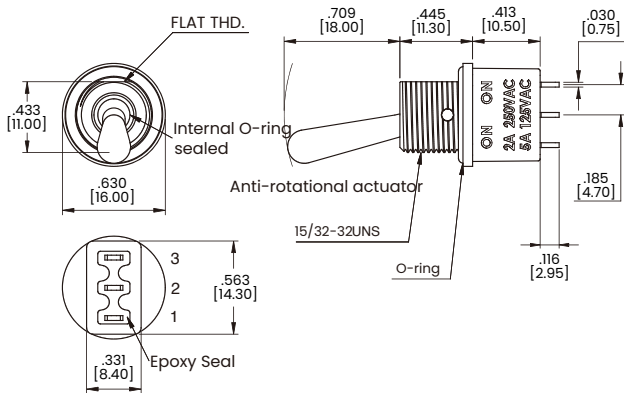
### 2. RUBBER O-RING

**WCP-0872** For 15/32 bushing option

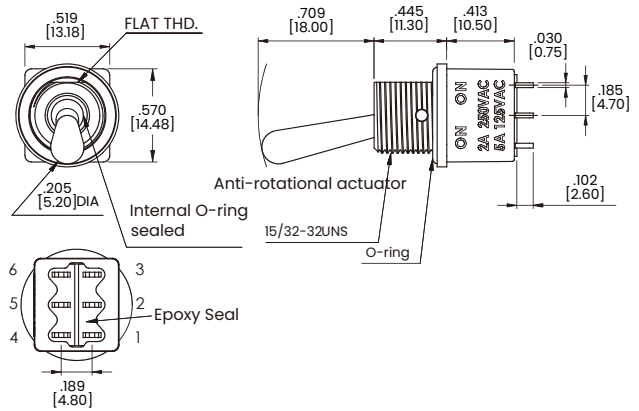
# Dimensional Specs

inches [millimeters]

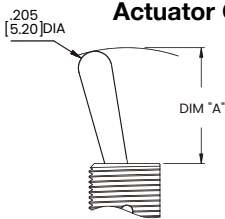
## Single Pole



## Double Pole

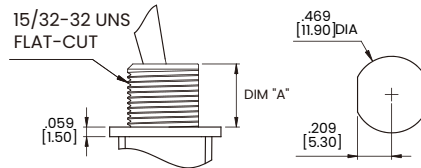


## Actuator Options



OPTION CODE	DIM. "A"
TJ	.709 [18.00]
TK	.512 [13.00]

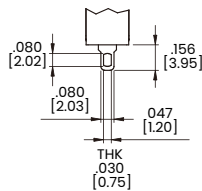
## Bushing Options & Mounting



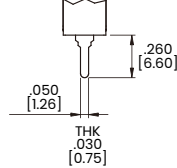
OPTION CODE	DIM. "A"
BK	.386 [9.80]

## Termination Options

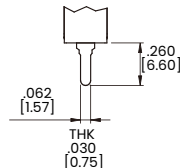
### M1 Standard Solder Lug



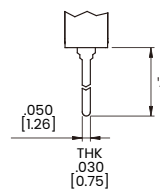
### M2 PC Thru-Hole



### M3 Quick Connect



### M5 Wire Wrap

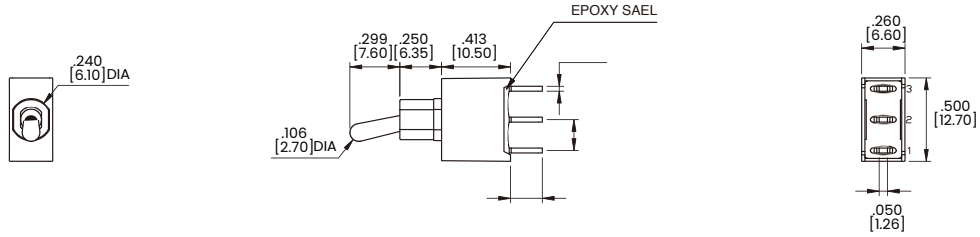


OPTION CODE	DIM. 'A'
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]
M5-4	1.062 [26.97]

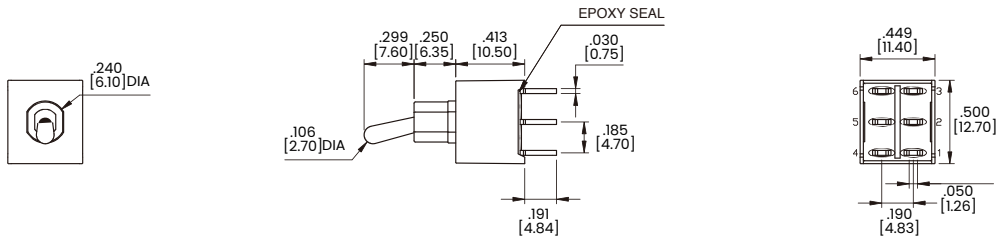
# Dimensional Specs

inches [millimeters]

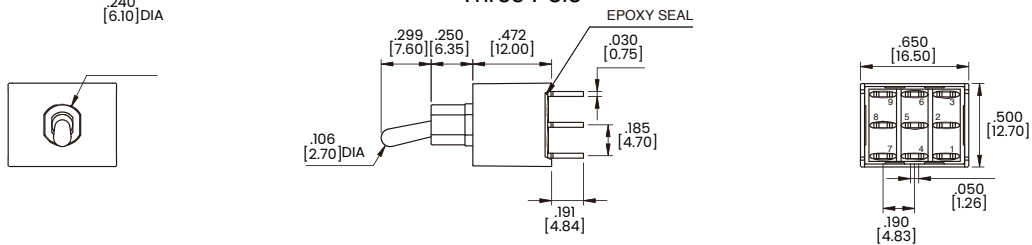
## Single Pole



## Double Pole

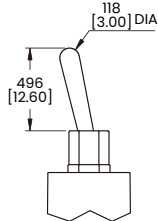


## Three Pole

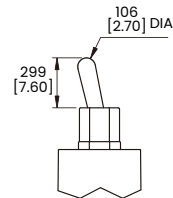


## Actuator Options

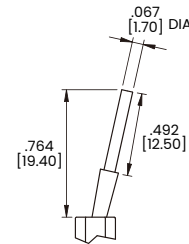
### T1



### T2

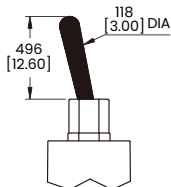


### T9 with Plastic Cap

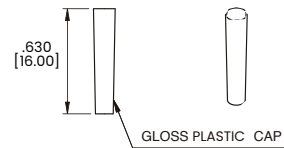
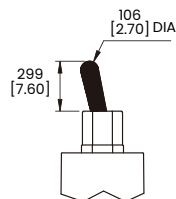


NO.	COLOR
1	White
2	Black(std.)
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
8	Brown
9	Gray

### P1 Plastic Toggle



### P2 Plastic Toggle



\* Shown with B4 bushing. Subtract 0.75" (1.90mm) from actuator height for B1 bushing.

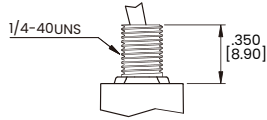


# Dimensional Specs

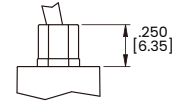
inches [millimeters]

## Bushing Options

**B1**

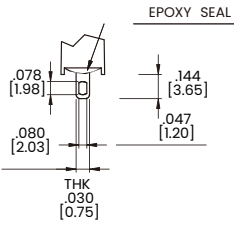


**B4**

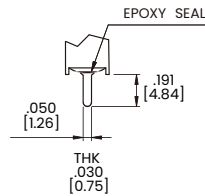


## Termination Options

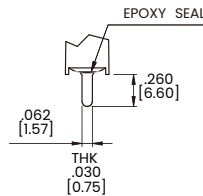
**M1 Standard Solder Lug**



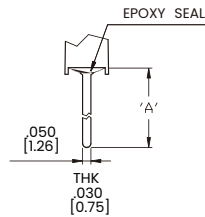
**M2 PC Thru-Hole**



**M3 Quick Connect**

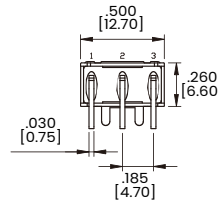
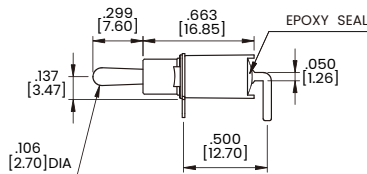
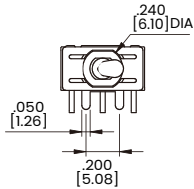


**M5 Wire Wrap**

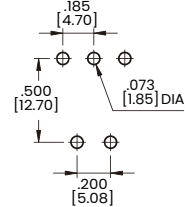


OPTION CODE	DIM.'A'
<b>M5-1</b>	.750 [19.05]
<b>M5-2</b>	.964 [24.48]
<b>M5-3</b>	.425 [10.80]
<b>M5-4</b>	1.062 [26.97]

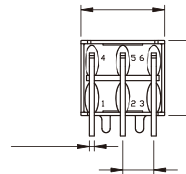
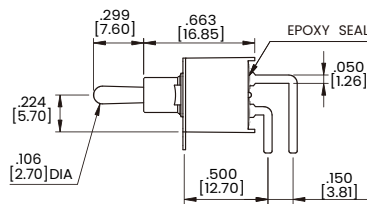
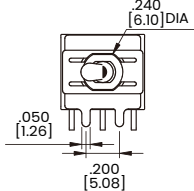
**M6 Single Pole**



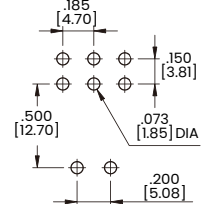
**P.C.MOUNTING**



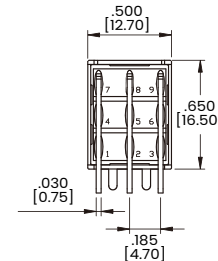
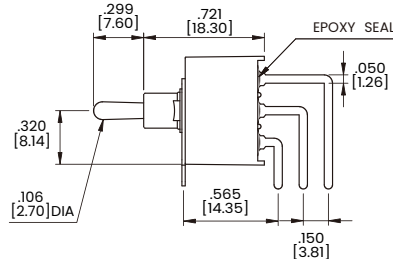
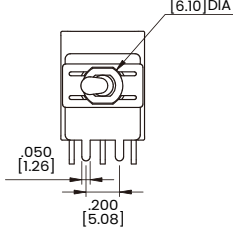
**M6 Double Pole**



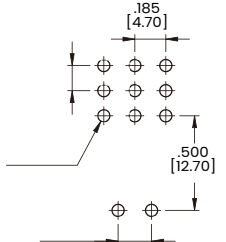
**P.C.MOUNTING**



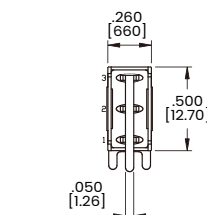
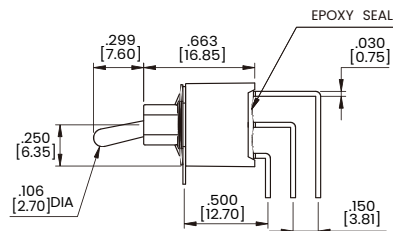
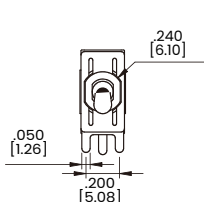
**M6 Three Pole**



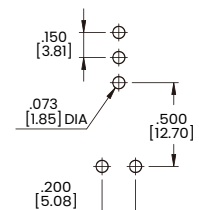
**P.C.MOUNTING**



**M7 Single Pole**



**P.C.MOUNTING**

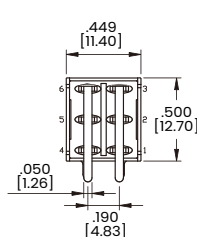
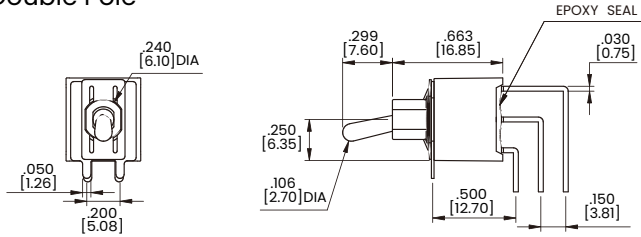


# Dimensional Specs

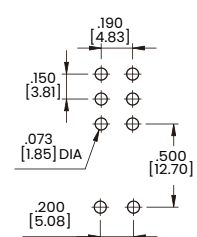
inches [millimeters]

## Termination Options

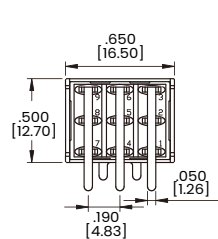
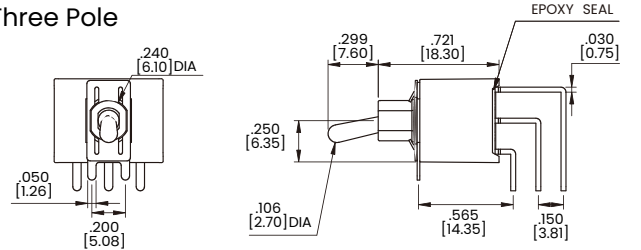
### M7 Double Pole



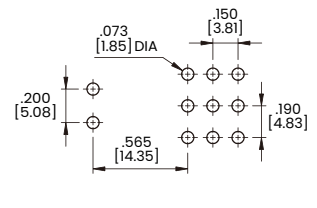
### P.C.MOUNTING



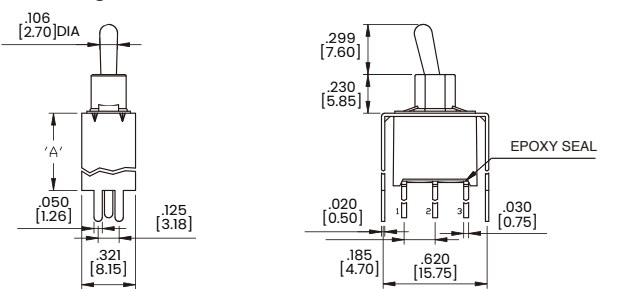
### M7 Three Pole



### P.C.MOUNTING

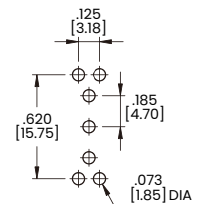


### VS2-VS3 Single Pole

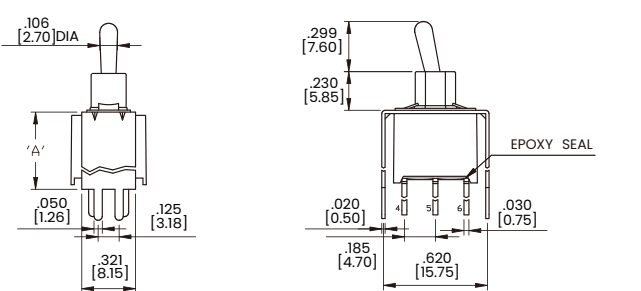


OPTION CODE	DIM. 'A'
<b>VS2</b>	.461 [11.70]
<b>VS3</b>	.630 [16.00]

### P.C.MOUNTING

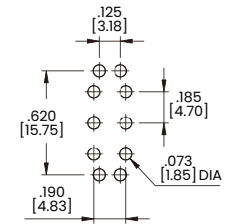


### VS2-VS3 Double Pole

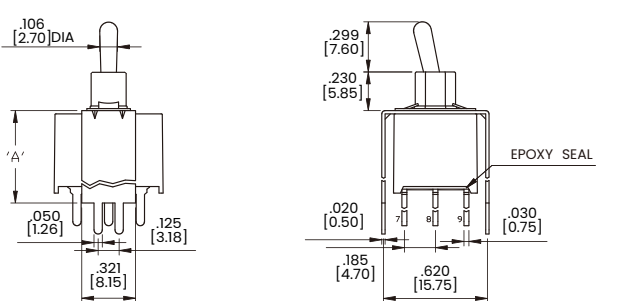


OPTION CODE	DIM. 'A'
<b>VS2</b>	.461 [11.70]
<b>VS3</b>	.630 [16.00]

### P.C.MOUNTING

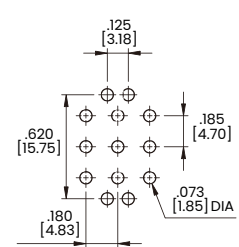


### U2-VS3 Three Pole



OPTION CODE	DIM. 'A'
<b>U2</b>	.551 [14.00]
<b>VS3</b>	.630 [16.00]

### P.C.MOUNTING

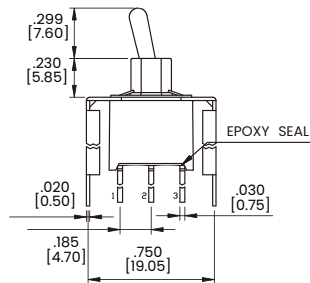
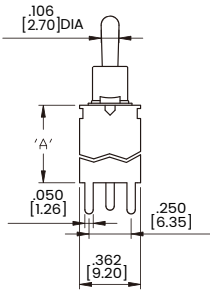


# Dimensional Specs

inches [millimeters]

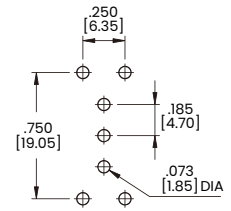
## Termination Options

### VS4-VS5 Single Pole

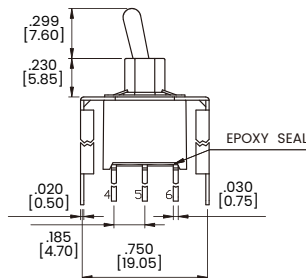
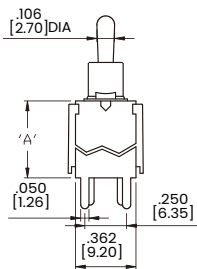


OPTION CODE	DIM.'A'
<b>VS4</b>	.461 [11.70]
<b>VS5</b>	.630 [16.00]

### P.C.MOUNTING

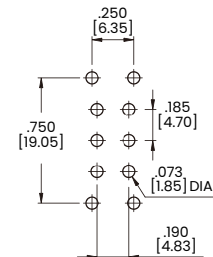


### VS4-VS5 Double Pole

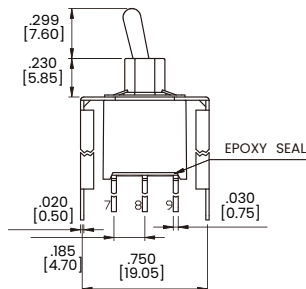
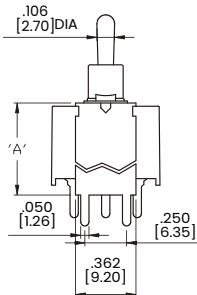


OPTION CODE	DIM.'A'
<b>VS4</b>	.461 [11.70]
<b>VS5</b>	.630 [16.00]

### P.C.MOUNTING

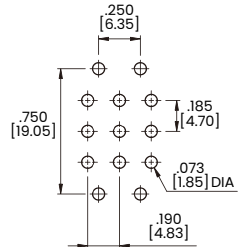


### U4-VS5 Three Pole



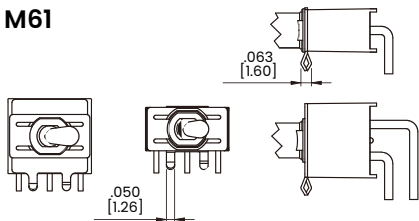
OPTION CODE	DIM.'A'
<b>U4</b>	.551 [14.00]
<b>VS5</b>	.630 [16.00]

### P.C.MOUNTING

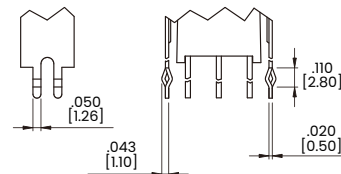


## Snap-In Termination Options

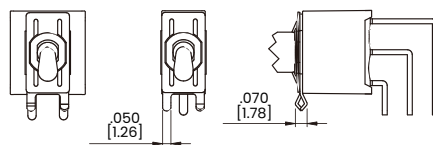
### M61



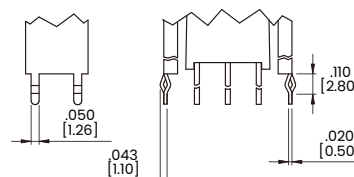
### VS21, VS31



### M71



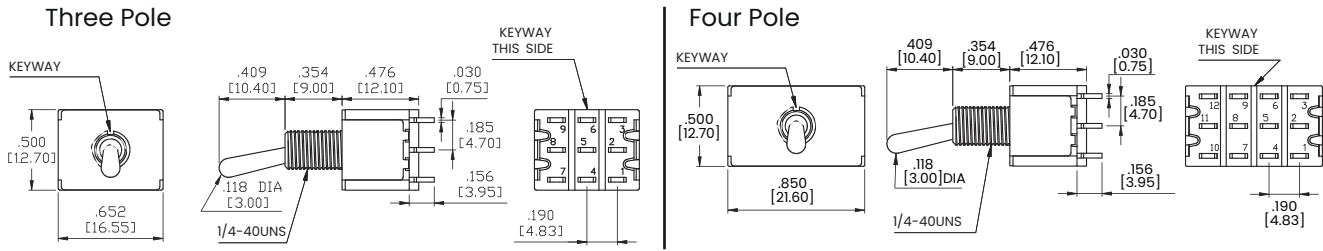
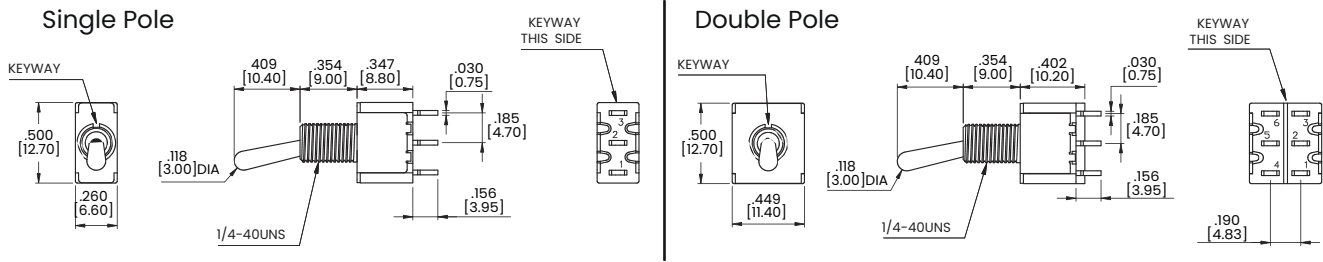
### VS41, VS51



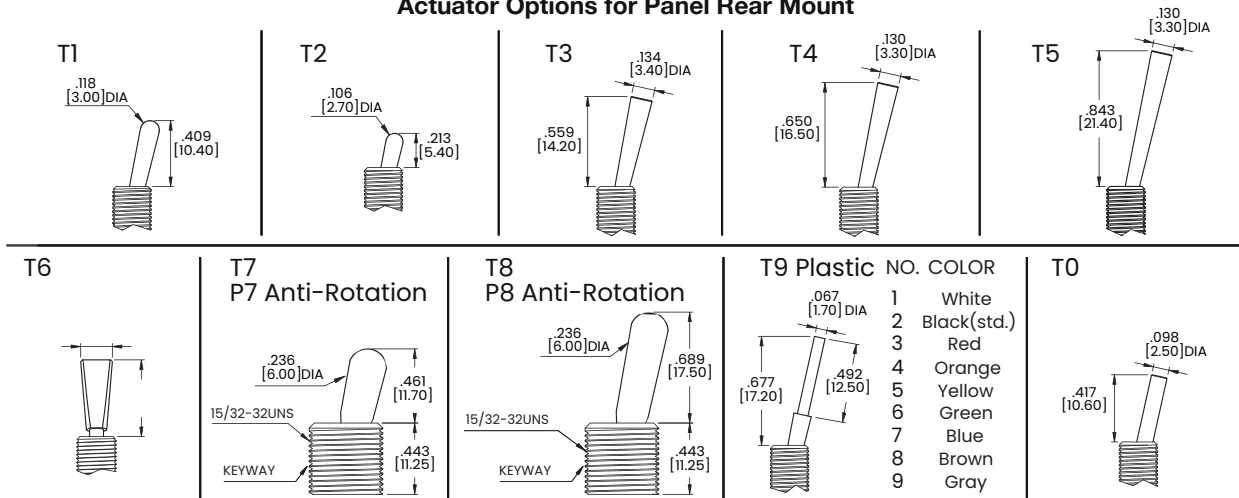
\* PC Mounting for M61, M71, VS21, VS31, VS41, VS51 refer to M6, M7, VS2, VS3, VS4, VS5 respectively.

# Dimensional Specs

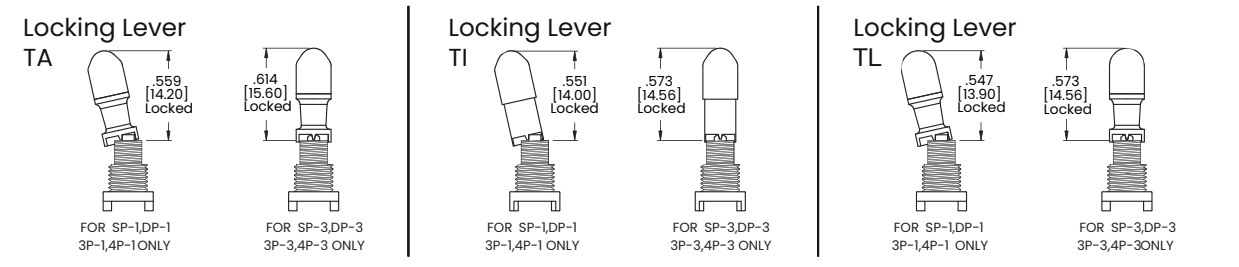
inches [millimeters]



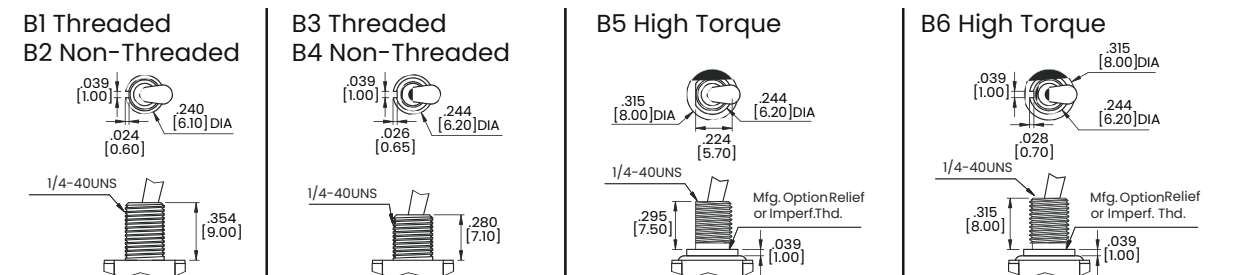
## Actuator Options for Panel Rear Mount



\* T6 actuator is available with B1, B2, B5, B6, BA, BB & BE bushing. Actuator length shown for T1-T5, T9 and T10 is with B1 bushing. T7, T7, P8 does not require a bushing code.



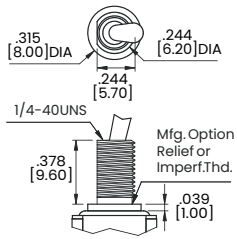
## Bushing Options



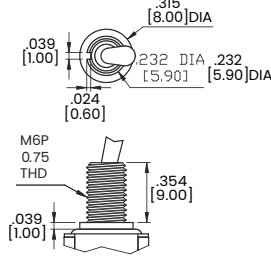
# Dimensional Specs

inches [millimeters]

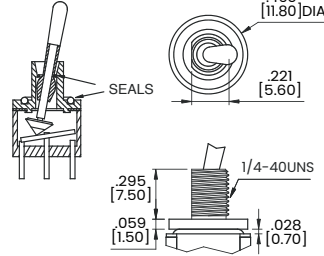
**B7 Long**



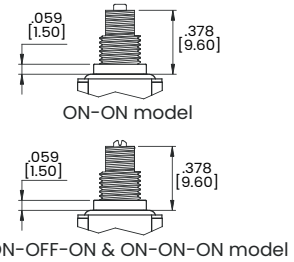
**B8 Metric**



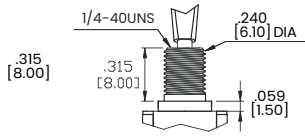
**B9 Splash-Proof**



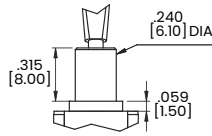
**BL Locking Lever**



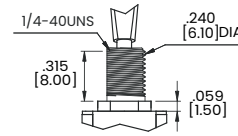
**BA Threaded for T6**



**BB Non-Threaded for T6**

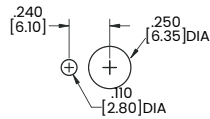
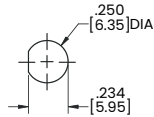
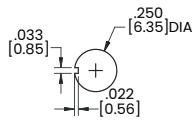


**BB High Torque for T6**

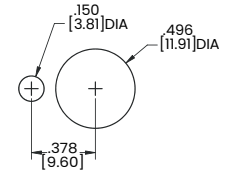
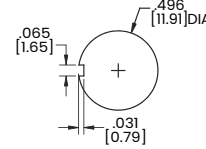


## Panel Mounting

**1/4 INCH BUSHING**

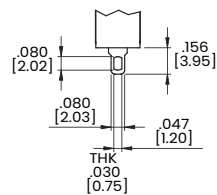


**15/32 INCH BUSHING**

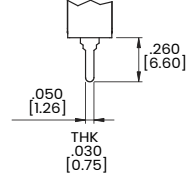


## Termination Options

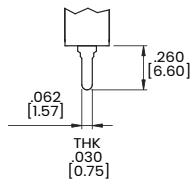
**M1 Standard Solder Lug**



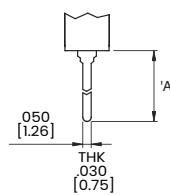
**M2 PC Thru-Hole**



**M3 Quick Connect**

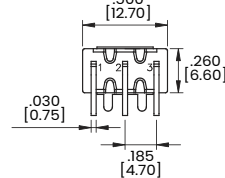
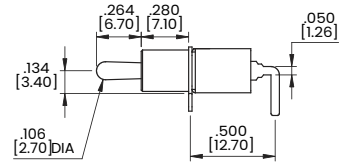
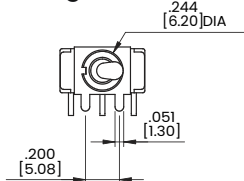


**M5 Wire Wrap**

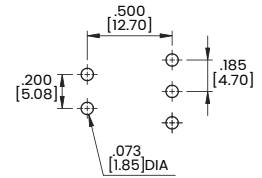


OPTION CODE	DIM. 'A'
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]
M5-4	1.062 [26.97]

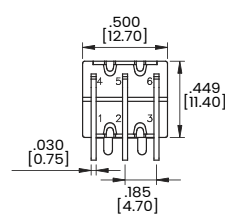
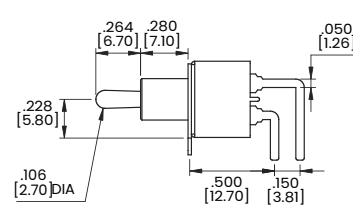
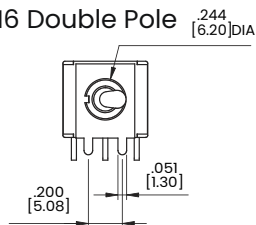
**M6 Single Pole**



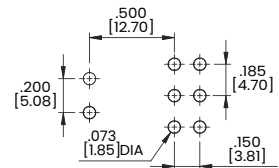
**P.C.MOUNTING**



**M6 Double Pole**



**P.C.MOUNTING**

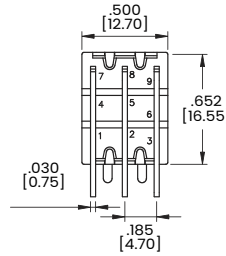
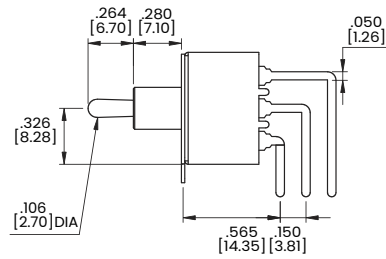
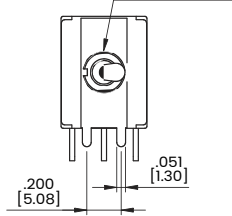


# Dimensional Specs

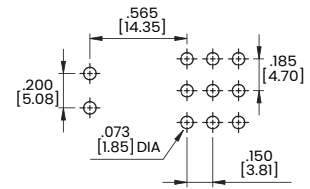
inches [millimeters]

## Termination Options

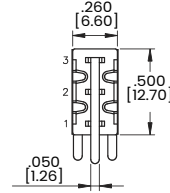
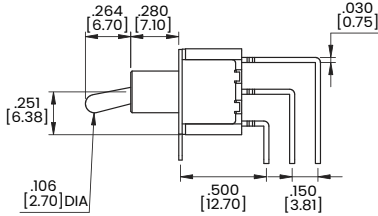
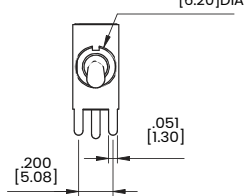
M6 Three Pole



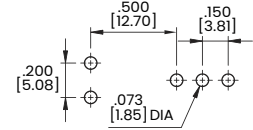
P.C.MOUNTING



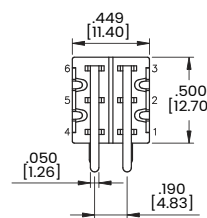
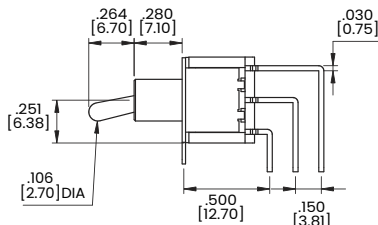
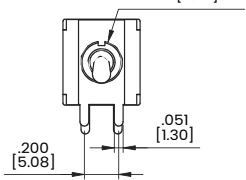
M7 Single Pole



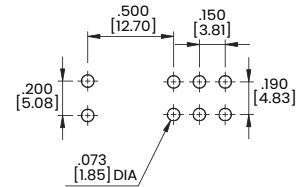
P.C.MOUNTING



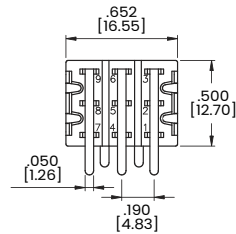
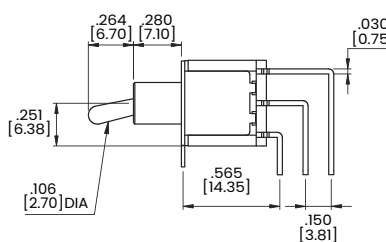
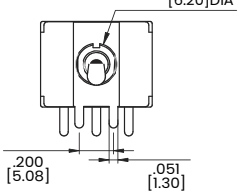
M7 Double Pole



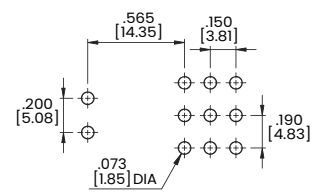
P.C.MOUNTING



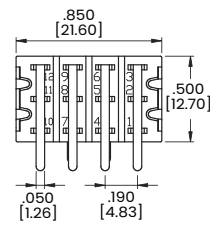
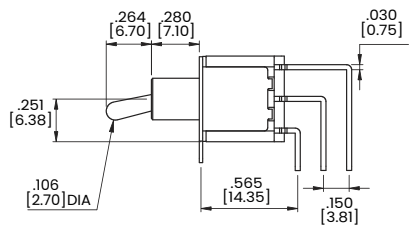
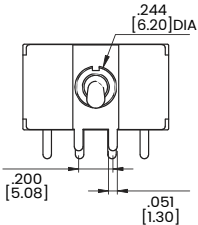
M7 Three Pole



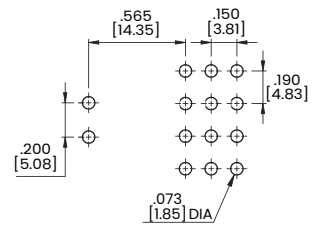
P.C.MOUNTING



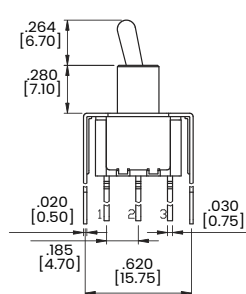
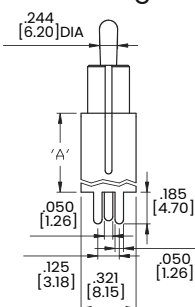
M7 Four Pole



P.C.MOUNTING

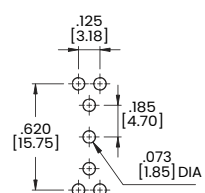


VS2-VS3 Single Pole



OPTION CODE	DIM: 'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

P.C.MOUNTING

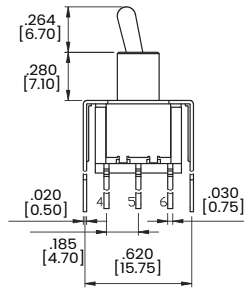
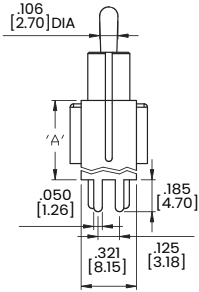


# Dimensional Specs

inches [millimeters]

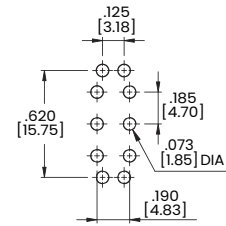
## Termination Options

### VS2-VS3 Double Pole

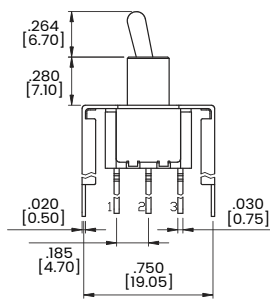
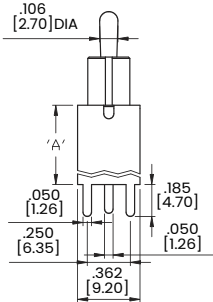


OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

### P.C.MOUNTING

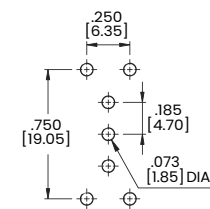


### VS4-VS5 Single Pole

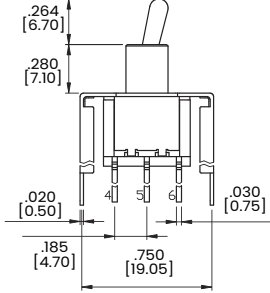
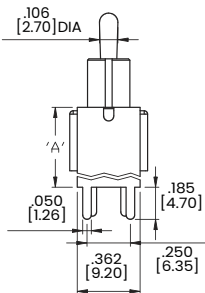


OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

### P.C.MOUNTING

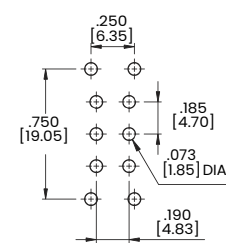


### VS4-VS5 Double Pole



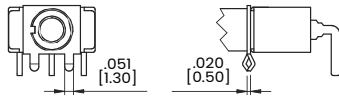
OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

### P.C.MOUNTING

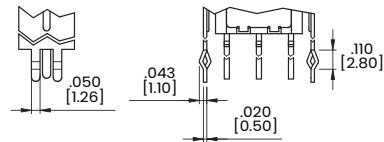


## Snap-In Termination Options

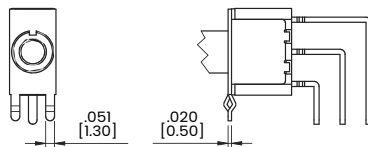
### M61 (available with SP & DP)



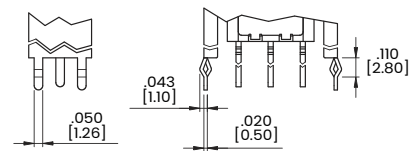
### VS21, VS31



### M71 (available with SP & DP)



### VS41, VS51



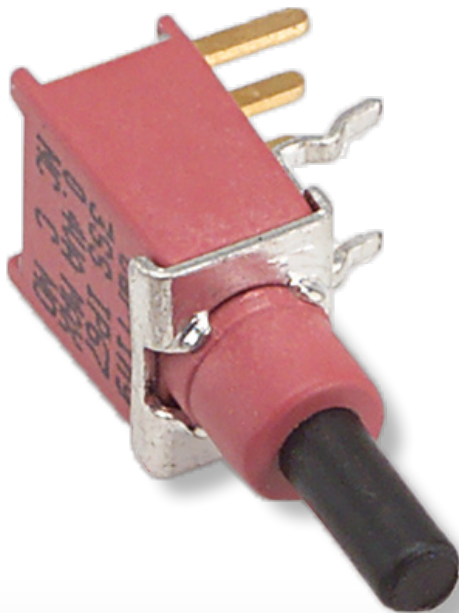
\* PC Mounting for M61,M71,VS21,VS31,VS41,VS51 refer to M6,M7,VS2,VS3,VS4,VS5 respectively.

# 3S-Series

Miniature Pushbutton Switches

**PRODUCT WEBPAGE**

*request sample, configure part*



The 3S family of sub-miniature pushbutton switches is composed of three switch series; the 3SI-Series sub-miniature pushbutton switch, the 3SS-Series sealed sub-miniature pushbutton switch, and the 3SM-Series surface mount sealed sub-miniature pushbutton switch. All switches are available with a variety of rating, termination and actuator choices, and will withstand temperatures from -30°C to +85°C.

**1-2**    **.4-6**    **125, 250**    **28**  
Poles    Amps    VAC    VDC

## Typical Applications

- Instrumentation
- Telecommunications
- Networking
- Performance Audio
- Computers
- Low Power On/Off Designs





# Ordering Schemes

Sample Part Number 3S1 - SP 9 - B6 - M7 - R E

Selection 1 2 3 4 5 6 7

**1. SERIES**  
3S1 Sub-Miniature Pushbutton Switch

**2. POLES**  
SP Single pole - uses terminals 1, 2 & 3

**3. CIRCUIT**  
( ) - momentary  
**Switching Position:** 1 2  
2-3, 5-6 2-1, 5-4  
8 ON (ON)  
9 OFF (ON)  
Note: Plunger at rest in Position 1. Plunger depressed in Position 2.

**4. ACTUATOR STYLE**  
B5<sup>1</sup> 10-48 Threaded B9 Flush Bushing  
B6 Unthreaded "D" B0 1/4" Unthreaded "D"  
B7 Unthreaded OP1 Snap-In with bezel  
B8<sup>2</sup> 1/4-40 Threaded "D" PO Flush Plunger

[Configure Complete Part Number >](#) [Browse Standard Parts >](#)

**5. TERMINATION**  
M1 Solder Lug M6 PC Mount, 90° horizontal  
M7 PC Mount, 90° vertical VS2 PC Mount, U bracket  
M2 PCB M71 M61 Snap-In, 90° horizontal  
Snap-In, 90° vertical VS21 Snap-In, U bracket

**6. CONTACTS / TERMINALS**  
**Contact Material Terminal Plating Rating**  
G silver<sup>3</sup> gold over silver 1A@125VAC or 28VDC  
K gold<sup>4,7</sup> tin<sup>6</sup> 0.4VA max @ 20V max (AC/DC)  
P silver<sup>3,8</sup> tin<sup>6</sup> 1A@125VAC or 28VDC  
Q silver<sup>3</sup> silver<sup>3</sup> 1A@125VAC or 28VDC  
R gold<sup>4</sup> gold<sup>5</sup> 0.4VA max @ 20V max (AC/DC)

**7. EPOXY SEAL**  
E Epoxy Seal 0 without Epoxy Seal

Notes:  
1 Hardware includes (2) 2M1-HDW21 nuts, and (1) 2M1-HDW22 washer  
2 Hardware includes (2) 2M1-HDW2 nuts, (1) 2M1-HDW11 washer, and (1) 2M1-HDW16 locking ring  
3 Movable contact and terminal platings: silver over copper alloy  
4 Movable contact and terminal platings: gold over nickel over copper alloy  
5 Terminal platings: gold over nickel over copper alloy  
6 Terminal platings: tin over copper alloy  
7 Terminal contact platings: Gold over nickel alloy  
8 Terminal contact platings: silver over nickel alloy

Sample Part Number 3S1 - SP 9 - B6 - M7 - R E

Selection 1 2 3 4 5 6 7

**1. SERIES**  
3MS Sealed Snap-Action Miniature Pushbutton Switch

**2. POLES**  
SP Single pole - uses terminals 1, 2 & 3

**3. CIRCUIT**  
( ) - momentary  
**Switching Position:** 1 2  
2-3, 5-6 2-1, 5-4  
7 ON (ON)  
Note: Plunger at rest in Position 1. Plunger depressed in Position 2.

**4. TERMINATION**  
K6 Surface Mount, horizontal .433 [11.00 mm]  
M6 Surface Mount, 90° flat .286 [7.26 mm]  
M7 Surface Mount, 90° right angle  
S6 Surface Mount, 90° horizontal .353 [8.97 mm]

**5. CONTACTS/TERMINALS**  
**Contact Material Terminal Plating Rating Approvals**  
G silver<sup>1</sup> gold over silver 1A 125VAC or 28VDC IP67  
K gold<sup>2,5</sup> tin<sup>4</sup> 0.4VA max 20V max (AC/DC) IP67  
P silver<sup>1,6</sup> tin<sup>4</sup> 1A 125VAC or 28VDC IP67  
Q silver<sup>1</sup> silver<sup>1</sup> 1A 125VAC or 28VDC IP67  
R gold<sup>2</sup> gold<sup>3</sup> 0.4VA max 20V max (AC/DC) IP67

**6. EPOXY SEAL**  
E Epoxy Seal 0 without Epoxy Seal

**7. PACKAGING**  
T/R tape reel - 500 pieces per reel  
Switches are bulk packed, unless T/R is specified at the end of the part number.

Notes:  
1 Movable contact and terminals platings: silver over copper alloy  
2 Movable contact platings: gold over nickel over copper alloy  
3 Terminal platings: gold over nickel over copper alloy  
4 Terminals platings: tin over copper alloy  
5 Terminal contact platings: gold over nickel alloy  
6 Terminal contact platings: silver over nickel alloy

[Configure Complete Part Number >](#) [Browse Standard Parts >](#)

## 3S-Series Accessories

To order accessories assembled on a switch, specify the switch number followed by the accessory part number and the word "assembled". Ex: 3S1-SP9-B6-M7-RE-C23 ASSEMBLED. To order accessories in bulk, specify the Series, followed by the accessory. Ex: 3S1-C13.

## Optional Cap

Sample Part Number 3S1 - C1 3

Selection 1 2 3

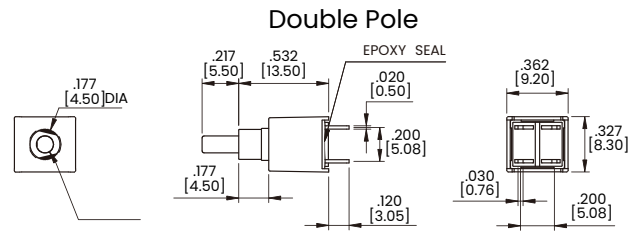
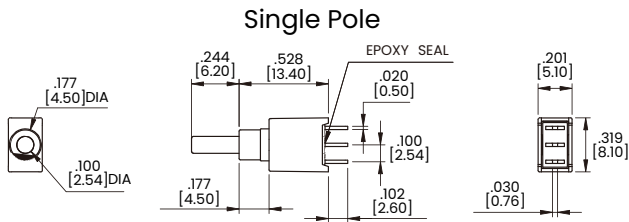
**1. SERIES**  
3S1 Fits 3SS, 3S1 or 3MS

**2. TOGGLE CAP SIZE**  
C1 .158" [4.01 mm] height C2 .138" [35.05 mm] height

**3. CAP COLOR**  
1 White 5 Yellow  
2 Black 6 Green  
3 Red 7 Blue  
4 Orange

# Dimensional Specs

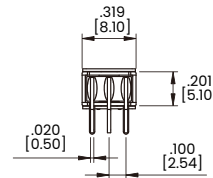
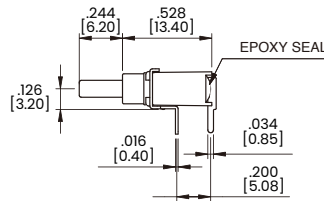
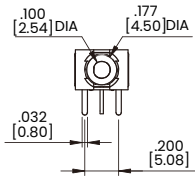
inches [millimeters]



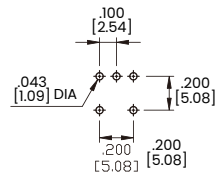
\* Double Thrown Shown. Single Throw uses two outer terminals only.

## Termination Options

### M6 Single Pole

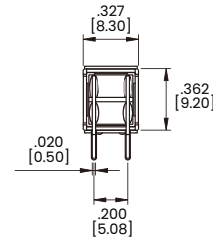
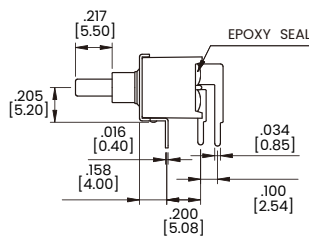
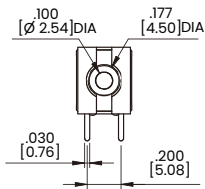


### P.C.MOUNTING

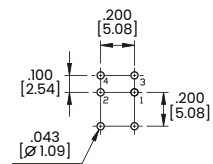


\* Double Thrown Shown. Single Throw uses two outer terminals only.

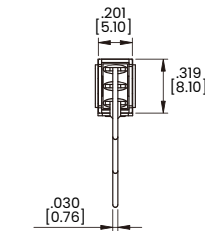
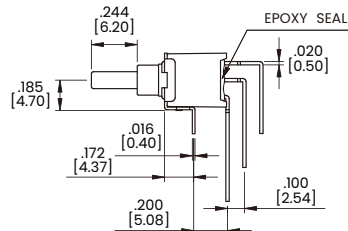
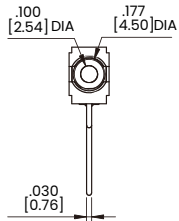
### M6 Double Pole



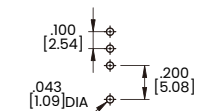
### P.C.MOUNTING



### M7 Single Pole

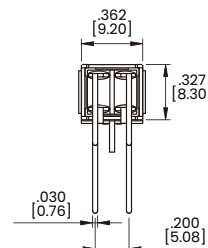
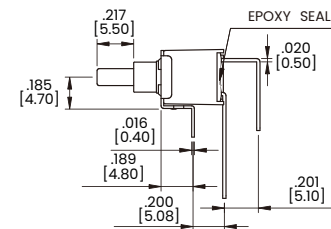
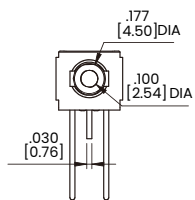


### P.C.MOUNTING

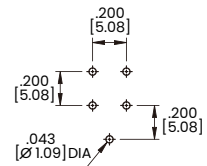


\* Double Thrown Shown. Single Throw uses two outer terminals only.

### M7 Double Pole



### P.C.MOUNTING

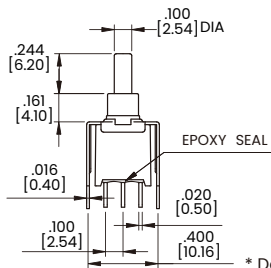
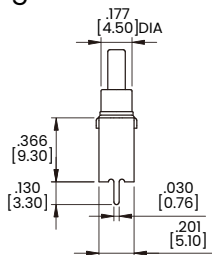


# Dimensional Specs

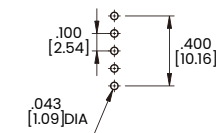
inches [millimeters]

## Termination Options

### VS2 Single Pole

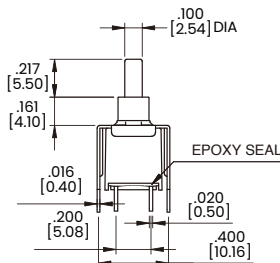
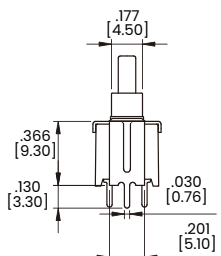


### P.C.MOUNTING

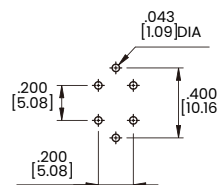


\* Double Throw Shown. Single Throw uses outer terminals only.

### VS2 Double Pole

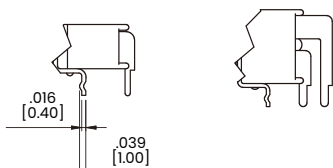


### P.C.MOUNTING

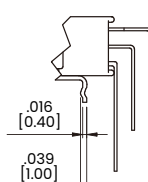


## Snap-In Termination Options

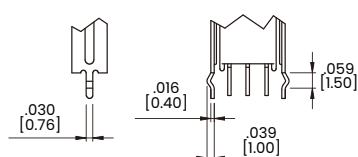
### M61



### M71



### VS21

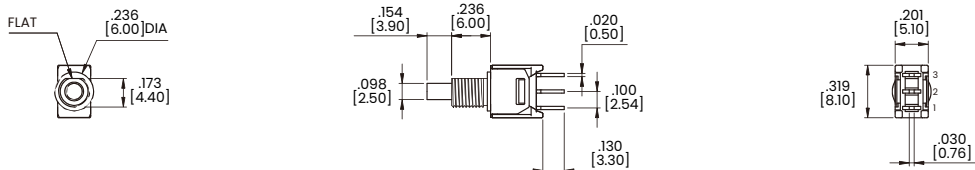


\* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.

# Dimensional Specs

inches [millimeters]

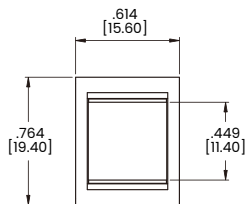
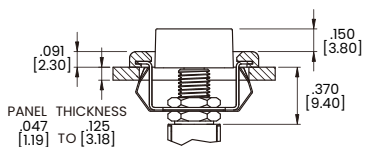
## Single Pole



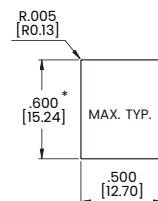
\* DoubleThrow shown. Single Throw uses two outer terminals only.

## Actuator Options for Snap-In Front Mount

### OPI

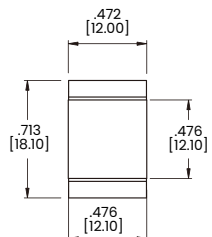
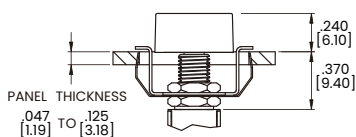


### PANEL MOUNTING

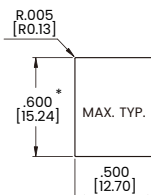


\*Increase this dimension to .620/.625 [15.75/15.88] for .091/.125 [2.31/3.18] thk. panels.

### OPI Without Frame



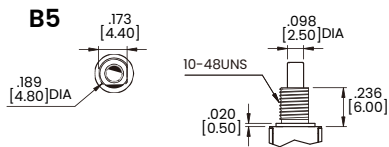
### PANEL MOUNTING



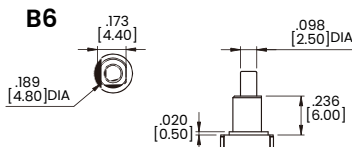
\*Increase this dimension to .620/.625 [15.75/15.88] for .091/.125 [2.31/3.18] thk. panels.

## Bushing Options

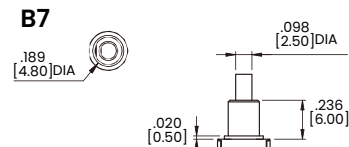
### B5



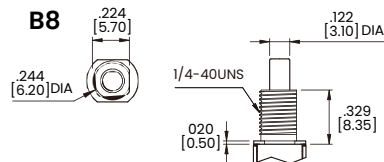
### B6



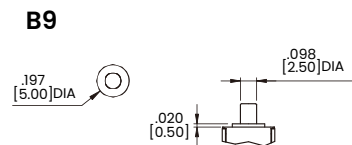
### B7



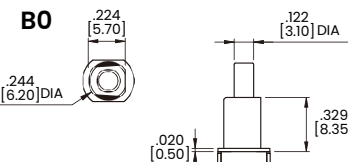
### B8



### B9

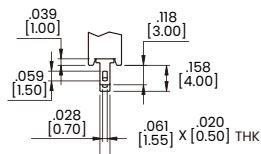


### B0

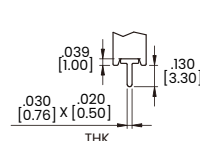


## Termination Options

### M1



### M2

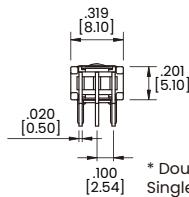
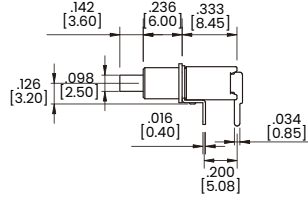
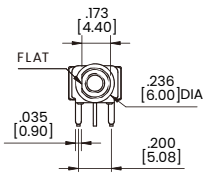


# Dimensional Specs

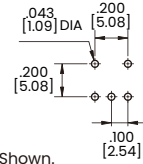
inches [millimeters]

## Termination Options

### M6 Single Pole

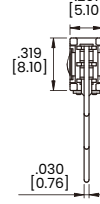
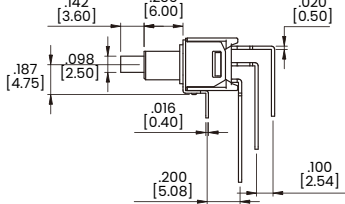
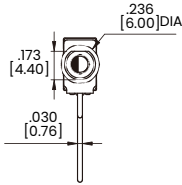


### P.C.MOUNTING

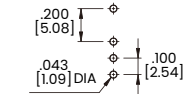


\* Double Throw Shown.  
Single Throw uses two outer terminals only.

### M7 Single Pole

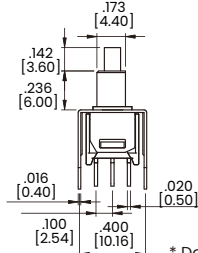
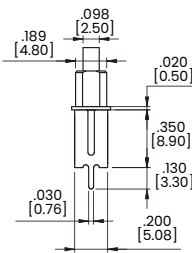


### P.C.MOUNTING

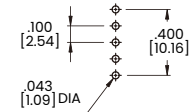


\* Double Throw Shown.  
Single Throw uses two outer terminals only.

### VS2 Single Pole



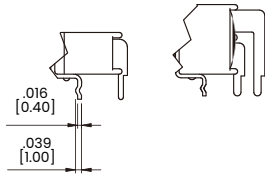
### P.C.MOUNTING



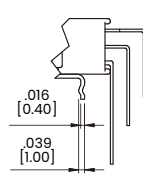
\* Double Throw Shown. Single Throw uses outer terminals only.

## Snap-In Termination Options

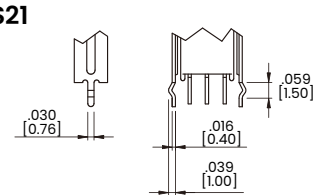
### M61



### M71



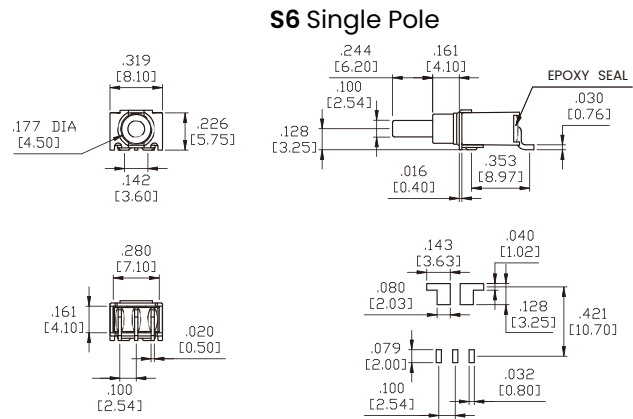
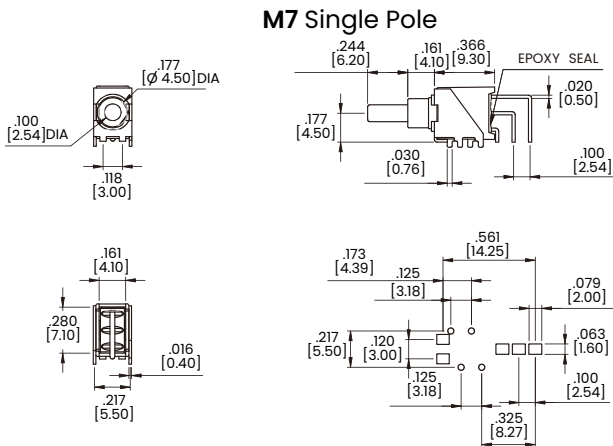
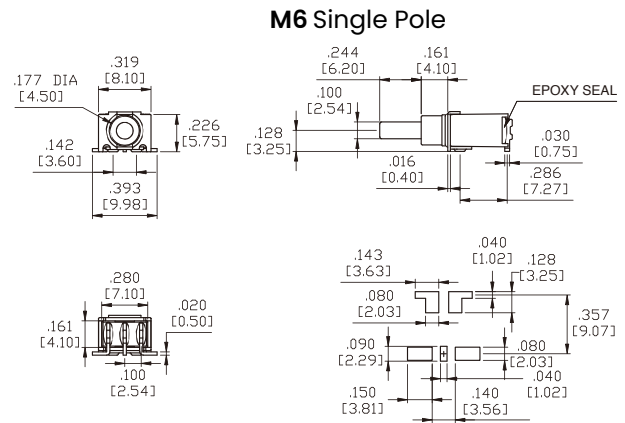
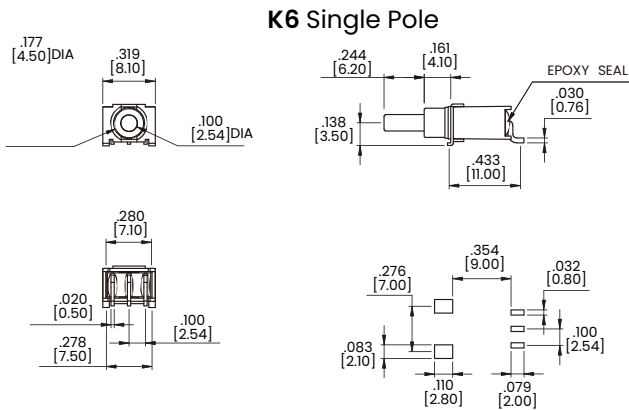
### VS21



\* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.

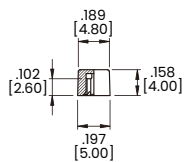
# Dimensional Specs

inches [millimeters]



\* Double Thrown Shown. Single Throw uses two outer terminals only.

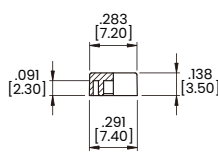
C1



\* MATERIAL: ABS.

## Plunger Caps

C2



\* MATERIAL: ABS.

### CAP COLORS

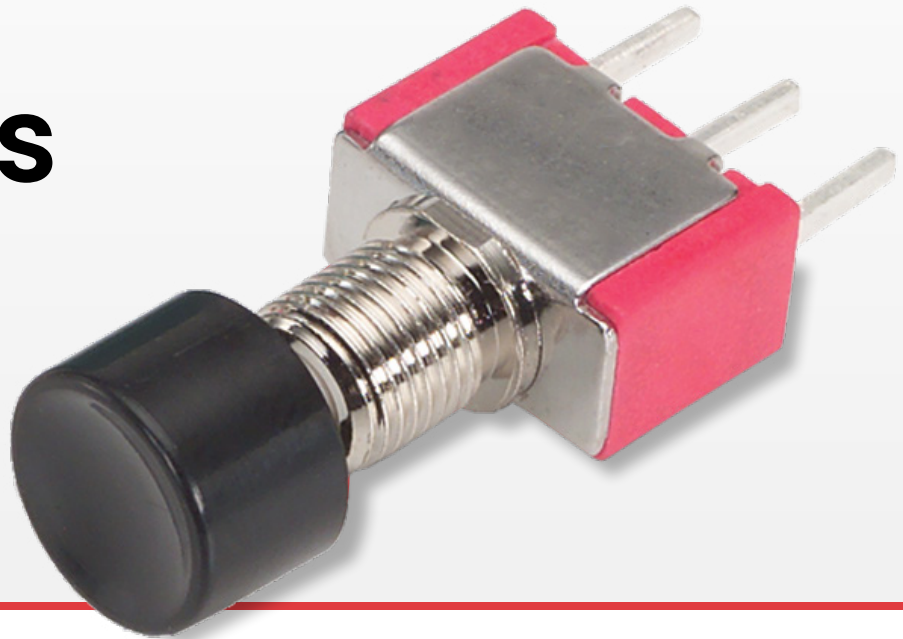
1	White	6	Green
2	Black	7	Blue
3	Red	8	Brown
4	Orange	9	Gray
5	Yellow		

# 3M-Series

Miniature Pushbutton Switches

**PRODUCT WEBPAGE**

*request sample, configure part*



The 3M family of miniature pushbutton switches is composed of four switch series; the 3MNH-Series premium sealed snap-action pushbutton, the 3MN-Series snap-action pushbutton, the 3MS-Series sealed snap-action pushbutton, and the 3MA-Series alternate-action pushbutton. These PC mount pushbutton switches offer a variety of ratings, circuits, contact materials, terminal platings, pushbutton styles, and optional color caps.

**1-2**    **.4-6**    **125, 250**    **28**  
Poles    Amps    VAC    VDC

## Typical Applications

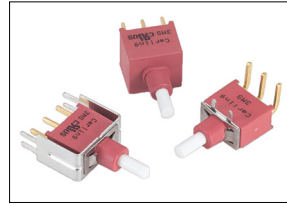
- Instrumentation
- Telecommunications
- Networking
- Performance Audio
- Computers
- Low Power On/Off Designs



# Tech Specs



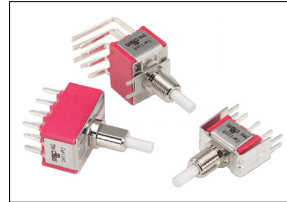
**3MNH-Series**  
Premium Sealed  
Miniature Pushbutton



**3MS-Series**  
Sealed Snap-Action  
Miniature Pushbutton



**3MN-Series**  
Snap-Action  
Miniature Pushbutton



**3MA-Series**  
Alternate Action  
Miniature Pushbutton

## Electrical

Contact Rating	refer to ordering scheme
Electrical Life	50,000 make & break cycles @ full load
Contact Resistance	<b>3MS-Series:</b> 50 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts. <b>3MN, 3MA &amp; 3NMH-Series:</b> 10 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts.
Insulation Resistance	1000 MΩ min.
Dielectric Strength	1500 Volts RMS @ sea level

## Physical

Operating Temperature	-30°C to +85°C
Index of Protection	<b>3MS-Series:</b> IP68 <b>3MNH-Series:</b> IP67
Cap Installation Support	<b>3MS-Series:</b> 10 lbs. max.
Solder Heat Resistance	MIL-STD-202, Method 210

## Material

Case	<b>3MS-Series:</b> Glass filled nylon 6/6, flame retardant, heat stabilized (UL94V-0) <b>3MN, 3MA &amp; 3NMH-Series:</b> Diallyl phthalate (DAP) (UL 94V-0)
Plunger	<b>3MS &amp; 3MA-Series:</b> Glass filled nylon or glass filled polyester (UL94V-0) <b>3MN-Series:</b> Thermoplastic polyester, black <b>3NMH-Series:</b> Brass, black finish with o-ring seal
Bushing	<b>3MN-Series:</b> Brass, nickel plated <b>3MA-Series:</b> Zinc, nickel plated <b>3NMH-Series:</b> Brass, black finish with o-ring seal
Housing	<b>3MN &amp; 3MA-Series:</b> Stainless Steel
Switch Support	<b>3MS-Series:</b> Stainless Steel
Terminal Seal	Epoxy

# Ordering Schemes

Sample Part Number 3MNH - DP 1 - PJ - BJ - M2 - Q E

Selection 1 2 3 4 5 6 7 8

## 1. SERIES

**3MNH** Premium Sealed Miniature Pushbutton Switch

## 2. POLES

**SP** Single pole - uses terminals 1, 2 & 3  
**DP** Double pole - uses terminals 1, 2, 3, 4, 5 & 6

## 3. CIRCUIT

( ) - momentary  
**Switching Position:** 1 2  
 1 ON ON  
 7 ON (ON)

Note: Plunger at rest in Position 1. Plunger depressed in Position 2.

## 4. ACTUATOR STYLE

**PJ** .325 height [8.25 mm]  
**PA** .157 height [4.00 mm]  
**PB** .354 height [9.00 mm]

### Notes:

- PJ Plunger for maintained circuits only. PA and PB Plunger for momentary circuits only
- Hardware includes (1) 2MI-HDW4 nut and (1) 3MNH-WCP-0872 o-ring
- BJ Bushing only available with PJ Plunger
- BL Bushing only available with PA or PB Plunger
- Movable contact & terminal platings: silver over copper alloy
- Movable Contact platings: gold over nickel over copper alloy
- Terminal platings: gold over nickel over copper alloy

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

## 5. ACTUATOR COLOR

**BJ**<sup>3</sup> Threaded 15/32, flat, .553 height [14.05 mm]  
**BL**<sup>4</sup> Threaded 15/32, flat, .295 height [7.49 mm]

## 6. TERMINATION

**M1** Solder Lug  
**M2** PC thru-hole  
**M51** Wire wrap, .71" [18.05 mm]  
**M52** Wire wrap, .924" [23.48 mm]  
**M53** Wire wrap, .386" [9.80 mm]

## 7. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
<b>G</b> silver <sup>5</sup>	gold over silver (SP1, DP1) (SP7, DP7)	6A@125VAC or 28VDC 3A@250VAC 1A@120VAC or 38VDC	us, IP67
<b>Q</b> silver <sup>5</sup>	silver <sup>5</sup> (SP1, DP1) (SP7, DP7)	6A@125VAC or 28VDC 3A@250VAC 1A@120VAC or 38VDC	us, IP67
<b>R</b> gold <sup>6</sup>	gold <sup>7</sup>	0.4VA max @ 20V max (AC/DC)	N/A

## 8. EPOXY SEAL

**E** Epoxy Seal

Sample Part Number 3SM - WSP 7 - P1 - B1 - M6 Q E

Selection 1 2 3 4 5 6 7 8

## 1. SERIES

**3MS** Sealed Snap-Action Miniature Pushbutton Switch

## 2. POLES

**WSP** Single pole - uses terminals 1, 2 & 3  
**WDP** Double pole - uses terminals 1, 2, 3, 4, 5 & 6

## 3. CIRCUIT

( ) - momentary  
**Switching Position:** 1 2  
 7 2-3, 5-6 2-1, 5-4  
 ON (ON)

Note: Plunger at rest in Position 1. Plunger depressed in Position 2.

## 4. ACTUATOR STYLE

**P1** Standard Plunger  
**P2** Long Plunger  
**P3** Short Plunger

## 5. BUSHING

**B1**<sup>1</sup> Threaded, with keyway, .350 height [8.89 mm]  
**B4** Unthreaded, flatted, .250 height [6.35 mm]

### Notes:

- Hardware includes (2) 2MI-HDW2 nuts, (1) 2MI-HDW11 washer, and (1) 2MI-HDW15 locking ring
- Movable contact and terminal platings: gold over nickel over copper alloy
- Movable contact and terminal platings: silver over copper alloy

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

## 6. TERMINATION

**M1** Solder Lug  
**M2** PCB  
**M6** PC Mount, 90° horizontal  
**M61** Snap-In, 90° horizontal  
**M7** PC Mount, 90° vertical  
**M71** Snap-In, 90° vertical  
**VS2** PC Mount, U bracket, .620" mounting x .461" height  
**VS21** Snap-In, U bracket, .620" mounting x .461" height  
**VS3** PC Mount, U bracket, .620" mounting x .630" height  
**VS31** Snap-In, vertical, .630" height  
**VS4** PC Mount, U bracket, .750" mounting x .461" height  
**VS41** Snap-In, vertical, .461" height  
**VS5** PC Mount, U bracket, .750" mounting x .630" height  
**VS51** Snap-In, vertical, .630" height

## 7. CONTACTS/TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
<b>G</b> silver <sup>3</sup>	gold over silver	1A 120VAC or 38VDC	us, IP68
<b>Q</b> silver <sup>3</sup>	silver <sup>3</sup>	1A 120VAC or 38VDC	us, IP68
<b>R</b> gold <sup>2</sup>	gold <sup>2</sup>	0.4VA max 20V max (AC/DC)	IP68

## 8. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)



# Ordering Scheme

## 3MA-Series with Square Actuator

Sample Part Number 3MA - SP - 1 - AP2 / 3 2 - M6 Q E

Selection 1 2 3 4 5A 5B 6 7 8

## 3MN-Series with Plunger Actuator

Sample Part Number 3MA - SP - 1 - PD - BD - M6 Q E

Selection 1 2 3 4 5 6 7 8

### 1. SERIES

**3MA** Alternate Action Miniature Pushbutton Switch

### 2. POLES

**SP** Single pole - uses terminals 1, 2 & 3  
**DP** Double pole uses terminals 1, 2, 3, 4, 5 & 6  
**3P**<sup>1</sup> Three pole uses terminals 1, 2, 3, 4, 5, 6, 7, 8 & 9  
**4P**<sup>1</sup> Four pole uses terminals 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

### 3. CIRCUIT

( ) - momentary  
**Switching 1** **2** **3**  
**Position:** 2-3, 5-6, 8-9, 11-12 Connected Terminals 2-1, 5-4, 8-7, 11-10  
**1** ON NONE ON  
**2\*** ON NONE (ON)

\*Available in SP & DP only.

### 4. ACTUATOR

**Square Actuator** (use with Color Options in Selection 5A & 5B)  
**AP1** Square with no frame  
**AP2** Square raised above frame  
**Plunger Actuator** (use with Bushing Options in Selection 5)  
**PA** Standard Plunger  
**PI** Medium Plunger  
**PL** Brass Chrome Plunger  
**PC** Brass Chrome Plated Plunger with Cap (for BD bushing only)  
**PD** Brass Chrome Plated Plunger (for BD bushing only)

### 5A. ACTUATOR COLOR & 5B FRAME COLOR

<b>1</b> White	<b>4</b> Orange	<b>7</b> Blue
<b>2</b> Black	<b>5</b> Yellow	<b>8</b> Brown
<b>3</b> Red	<b>6</b> Green	<b>9</b> Gray




### 5B. BUSHING

**BD**<sup>1</sup> Big bushing for PC, PD actuator 15/32"  
**B10**<sup>2</sup> Threaded 1/4 - 40  
**B20** Unthreaded  
**B21** Unthreaded with flat

### 6. TERMINATION

**M1** Solder Lug  
**M2** PCB  
**M51** Wire Wrap .750  
**M52** Wire Wrap .964  
**M53** Wire Wrap .425  
**M54** Wire Wrap 1.062  
**M6** PC Mount, 90° horizontal  
**M7** PC Mount, 90° vertical  
**VS2** PC Mount, U bracket, .620" mounting x .461" height  
**VS3** PC Mount, U bracket, .620" mounting x .630" height  
**VS4** PC Mount, U bracket, .750" mounting x .461" height  
**VS5** PC Mount, U bracket, .750" mounting x .630" height

### 7. CONTACTS/TERMINALS

Contact	Material	Terminal Plating	Rating	Approvals
<b>G</b>	silver <sup>6</sup>	gold over silver	6A 125VAC or 28VDC 3A 250VAC	
<b>K</b>	gold <sup>7</sup>	tin <sup>8</sup>	0.4VA max 20V max (AC/DC)	N/A
<b>P</b>	silver <sup>6</sup>	gold over silver	6A 125VAC or 28VDC 3A 250VAC	
<b>Q</b>	silver <sup>6</sup>	silver <sup>6</sup>	6A 125VAC or 28VDC 3A 250VAC	
<b>R</b>	gold <sup>7</sup>	gold <sup>7</sup>	0.4VA max 20V max (AC/DC)	N/A

### 8. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

#### Notes:

- Hardware includes (2) 2MI-HDW2 nuts, (1) 2MI-HDW12 washer, and (1) 2MI-HDW17 locking ring
- Hardware includes (2) 2MI-HDW2 nuts, (1) 2MI-HDW11 washer, and (1) 2MI-HDW15 locking ring
- Tin option available with PC type terminations only.
- Available with circuit 1 only
- Black, white and red are standard. Other colors available, consult factory for details.
- Selection 5B is blank if actuator style is AP1 (no frame)
- Movable contact & terminal platings: silver over copper alloy
- Movable contact & terminal platings: gold over nickel over copper alloy
- Terminal platings: tin over nickel over copper alloy, available for PC mount terminations only

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

## 3M-Series Accessories

To order a cap assembled on a switch, specify the switch number followed by the cap part number and the word "assembled". Ex: 3MN-SP-7-P2-B6-M6QE-C13ASSEMBLED. To order caps in bulk, specify the Series, followed by the cap. Ex: 3MN-C13

## Optional Cap

Sample Part Number 3MN - C1 3

Selection 1 2 3

### 1. SERIES

**3MN** Fits 3MN, 3MS or 3MA

### 2. PUSHBUTTON CAP SIZE

**C1** Round 8 mm diameter **C5**<sup>1</sup> Round 15 mm diameter  
**C2** Round 9.70 mm diameter **C6**<sup>2</sup> Brass Chrome Plated, 3.15 mm diameter  
**C3** Square 11.7 x 11.7 mm  
**C4** Round 5 mm diameter

### 3. CAP COLOR

<b>1</b> White	<b>5</b> Yellow
<b>2</b> Black	<b>6</b> Green
<b>3</b> Red	<b>7</b> Blue
<b>4</b> Orange	

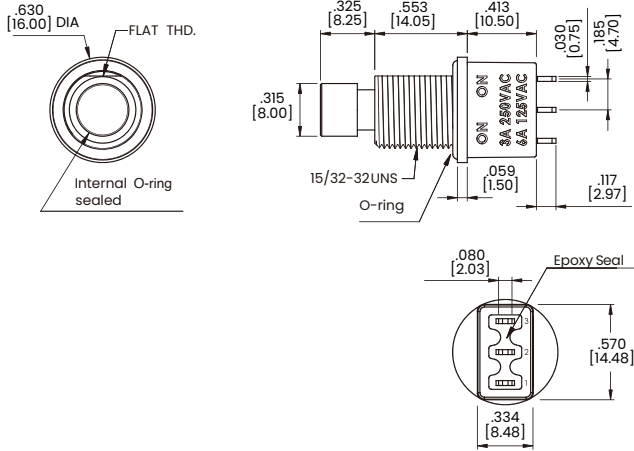
#### Notes:

- For 3MA with PL Bushing
- For 3MA with PD Bushing

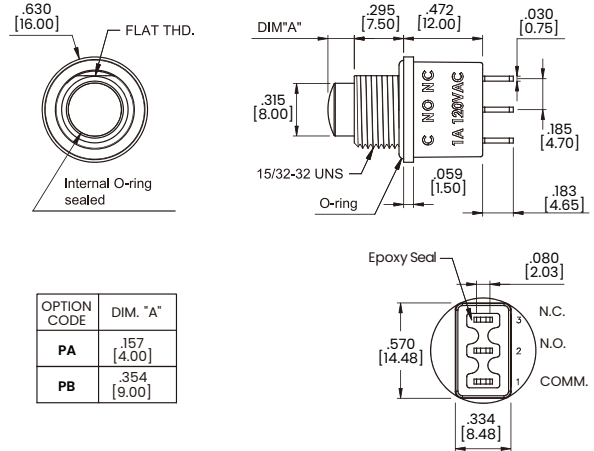
# Dimensional Specs

inches [millimeters]

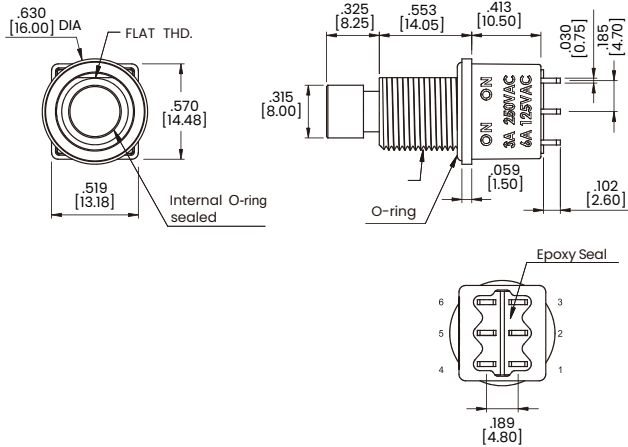
## Single Pole Maintained Circuit



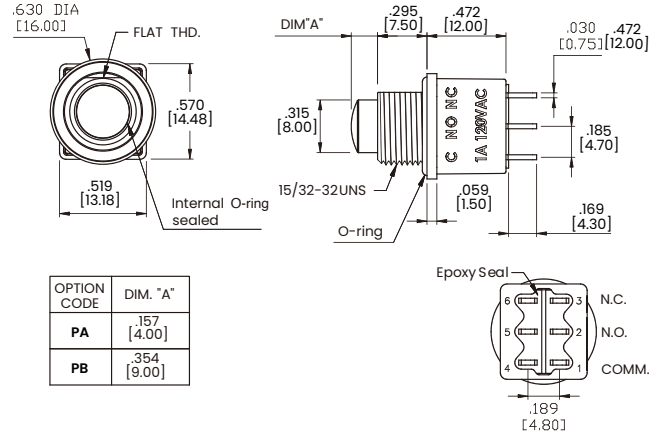
## Single Pole Momentary Circuit



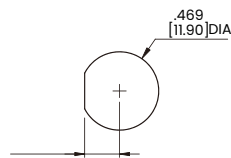
## Double Pole Maintained Circuit



## Double Pole Momentary Circuit

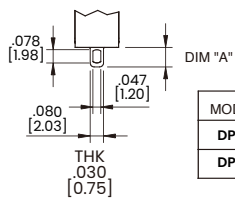


## Panel Mounting



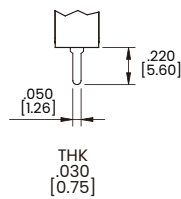
15/32-32 UNS FLAT-CUT  
THREADED BUSHING

## M1 Standard Solder Lug

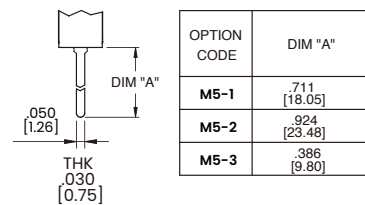


## Termination Options

### M2 PC Thru-Hole

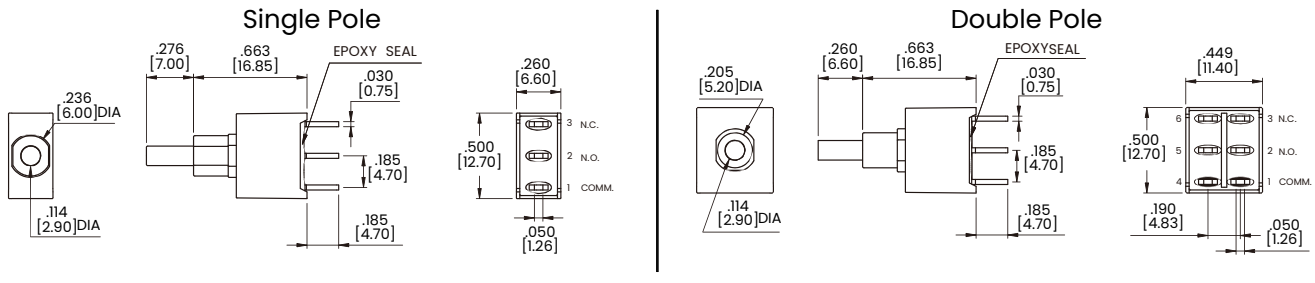


### M5 Wire Wrap

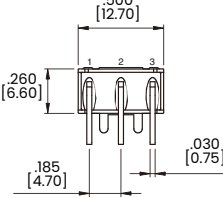
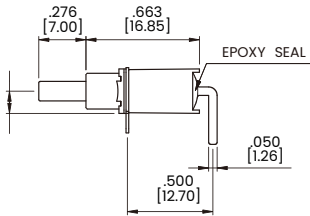
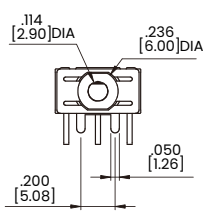


# Dimensional Specs

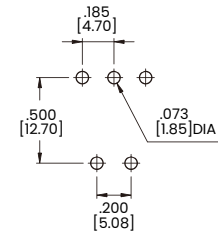
inches [millimeters]



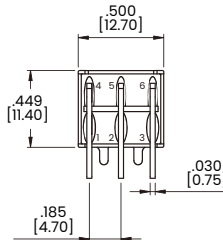
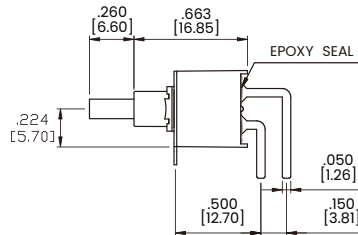
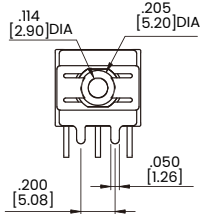
## M6 Single Pole



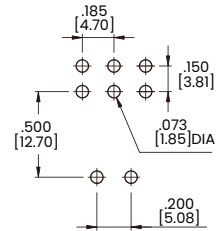
## P.C.MOUNTING



## M6 Double Pole

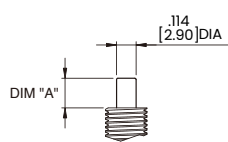


## P.C.MOUNTING



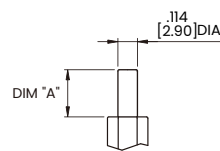
## Plunger Options

### For B1 Bushing



OPTION CODE	DIM. "A"
P1	.181 [4.60]
P2	.228 [5.80]
P3	.087 [2.20]

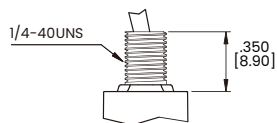
### For B4 Bushing



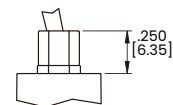
OPTION CODE	DIM. "A"
P1	.276 [7.00]
P2	.323 [8.20]
P3	.181 [4.60]

## Bushing Options

### B1



### B4

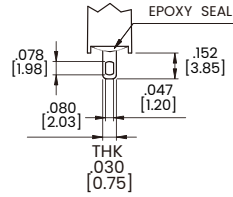


# Dimensional Specs

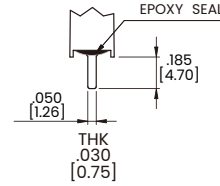
inches [millimeters]

## Termination Options

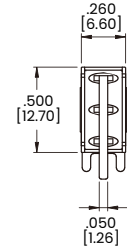
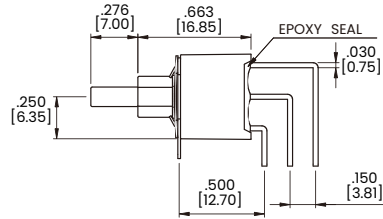
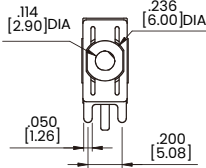
M1



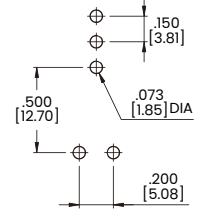
M2



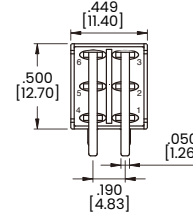
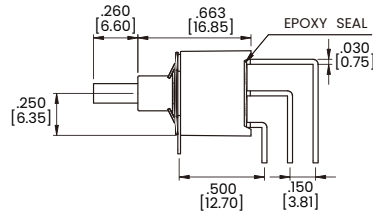
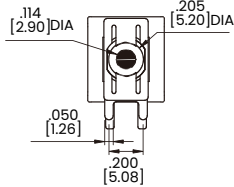
### M7 Single Pole



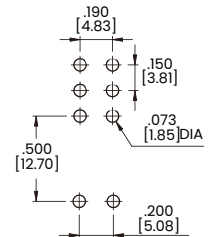
### P.C.MOUNTING



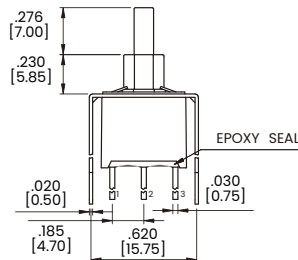
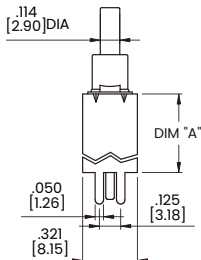
### M7 Double Pole



### P.C.MOUNTING

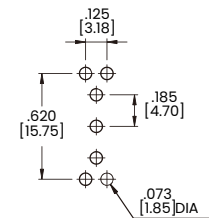


### VS2-VS3 Single Pole

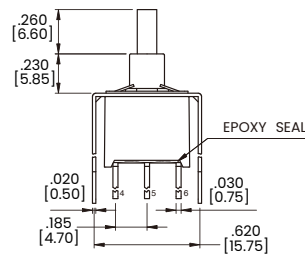
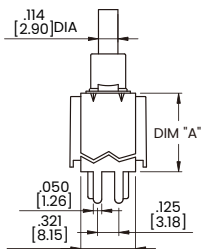


OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

### P.C.MOUNTING

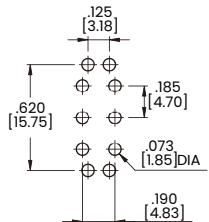


### VS2-VS3 Double Pole



OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

### P.C.MOUNTING

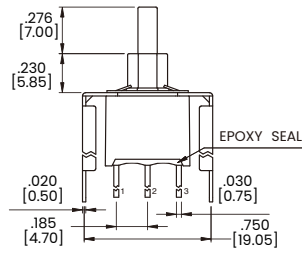
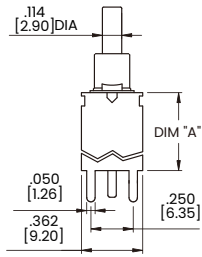


# Dimensional Specs

inches [millimeters]

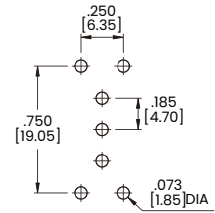
## VS4-VS5 Single Pole

## Termination Options

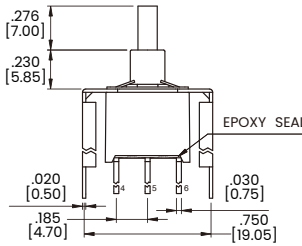
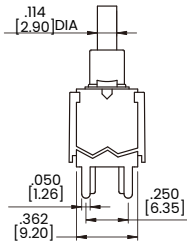


OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

## P.C.MOUNTING

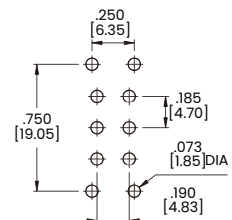


## VS4-VS5 Double Pole



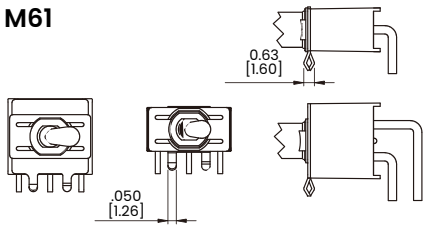
OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

## P.C.MOUNTING

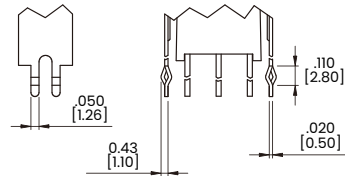


## Snap-In Termination Options

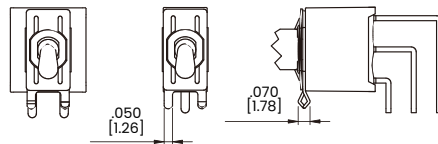
### M61



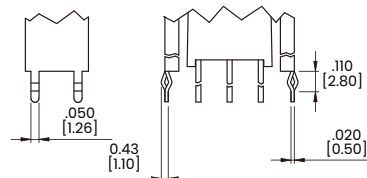
### VS21, VS31



### M71



### VS41, VS51

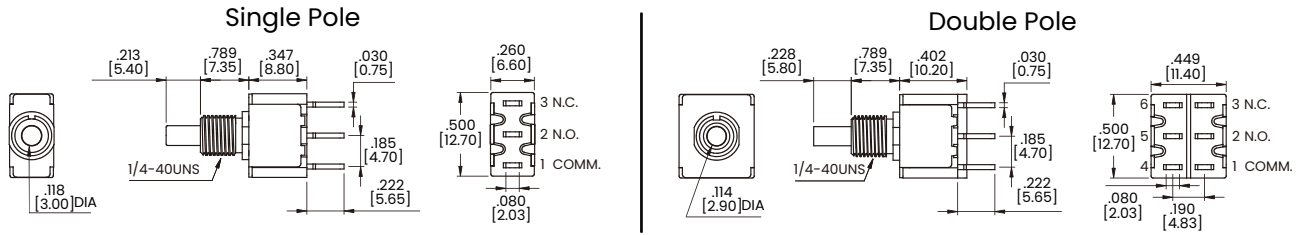


\* PC Mounting for M61, M71, VS21, VS31, VS41, VS51 refer to M6, M7, VS2, VS3, VS4, VS5 respectively.



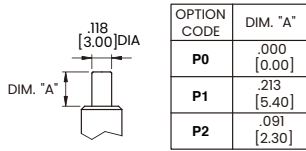
# Dimensional Specs

inches [millimeters]

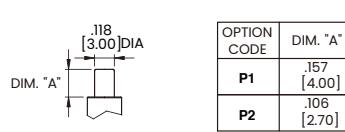


## Plunger Options

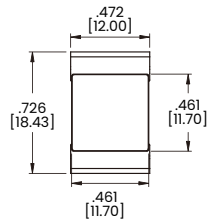
For B1, B2, B3, B4 Bushing



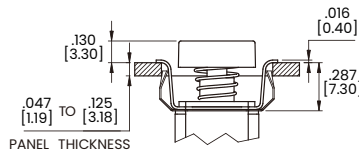
For B6 Bushing



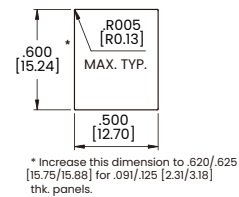
API



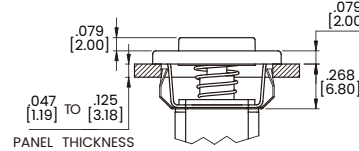
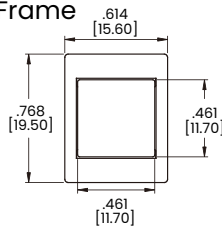
## Actuator Options for Snap-In Front Mount



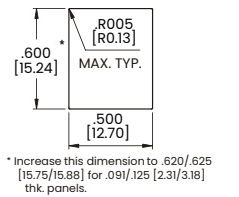
PANEL MOUNTING



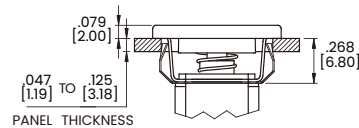
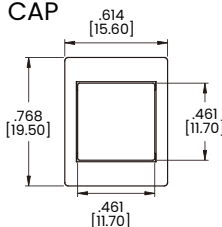
AP2 with Frame



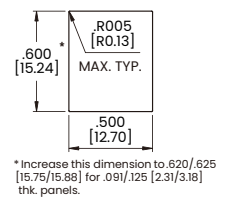
PANEL MOUNTING



AP3 Flush CAP

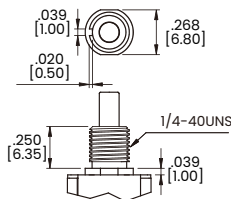


PANEL MOUNTING

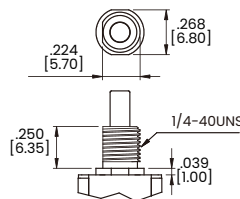


## Bushing Options

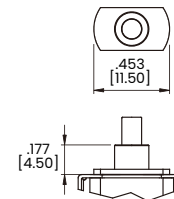
B1 Threaded Standard  
B2 Non-Threaded



B3 Threaded Standard  
B4 Non-Threaded



B6 Non-Threaded  
(FOR TERMINATION OPTIONS VS6-VS9 ONLY)

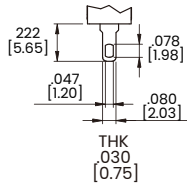


# Dimensional Specs

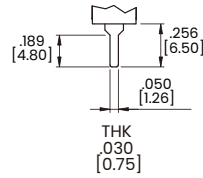
inches [millimeters]

## Termination Options

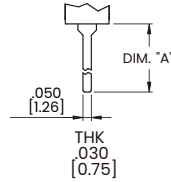
**M1 Standard Solder Lug**



**M2 PC Thru-Hole**

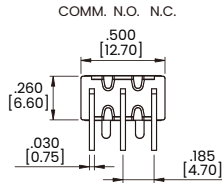
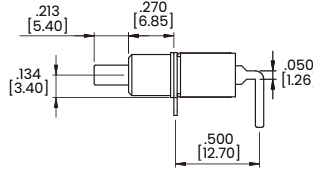
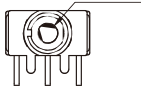


**M5 Wire Wrap**

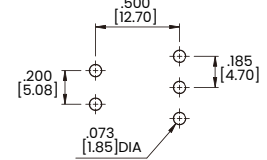


OPTION CODE	DIM. "A"
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]

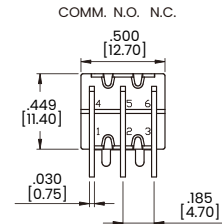
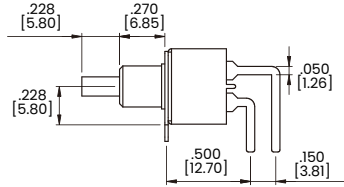
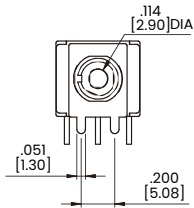
**M6 Single Pole**



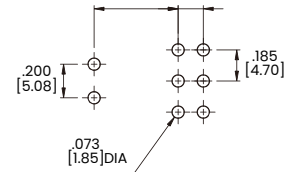
**P.C.MOUNTING**



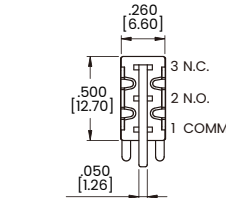
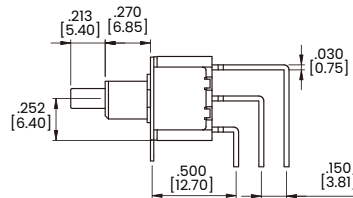
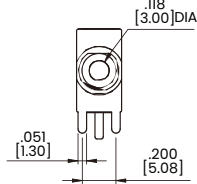
**M6 Double Pole**



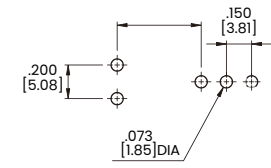
**P.C.MOUNTING**



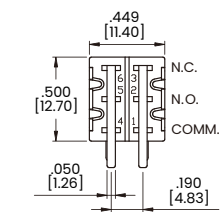
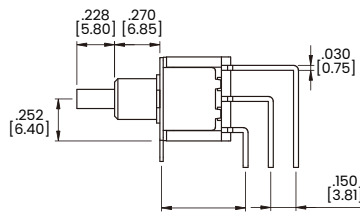
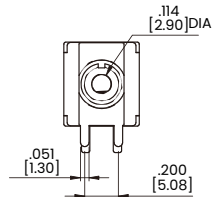
**M7 Single Pole**



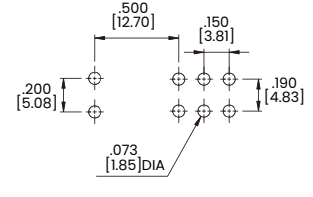
**P.C.MOUNTING**



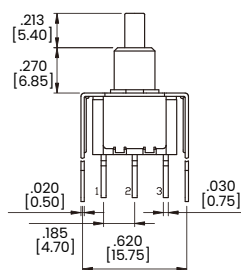
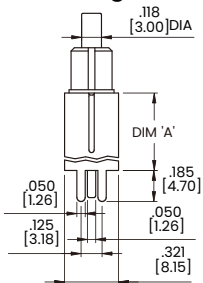
**M7 Double Pole**



**P.C.MOUNTING**

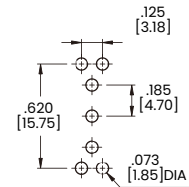


**VS2-VS3 Single Pole**



OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

**P.C.MOUNTING**

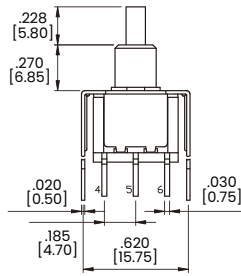
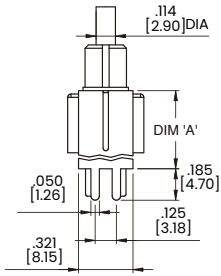


# Dimensional Specs

inches [millimeters]

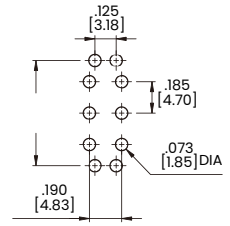
## Termination Options

### VS2-VS3 Double Pole

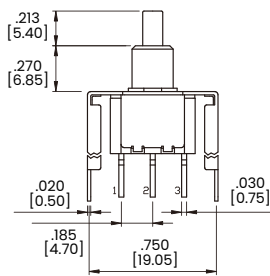
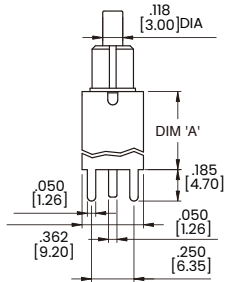


OPTION CODE	DIM. 'A'
<b>VS2</b>	.461 [11.70]
<b>VS3</b>	.630 [16.00]

### P.C.MOUNTING

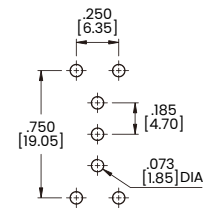


### VS4-VS5 Single Pole

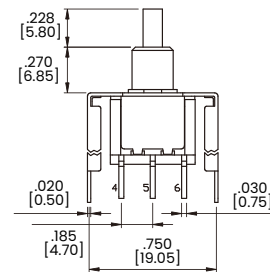
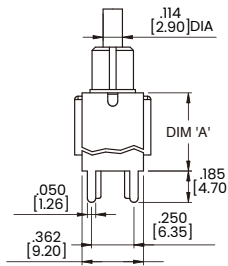


OPTION CODE	DIM. 'A'
<b>VS4</b>	.461 [11.70]
<b>VS5</b>	.630 [16.00]

### P.C.MOUNTING

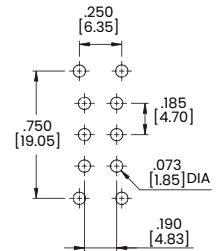


### VS4-VS5 Double Pole

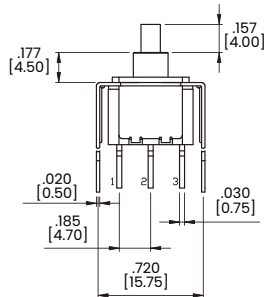
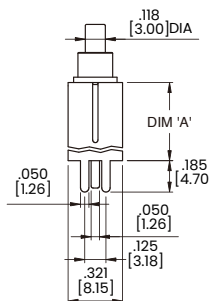


OPTION CODE	DIM. 'A'
<b>VS4</b>	.461 [11.70]
<b>VS5</b>	.630 [16.00]

### P.C.MOUNTING

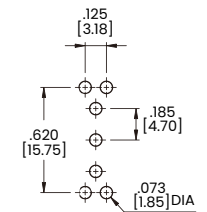


### VS6-VS7 Single Pole (FOR B6 BUSHING ONLY)



OPTION CODE	DIM. 'A'
<b>VS6</b>	.461 [11.70]
<b>VS7</b>	.630 [16.00]

### P.C.MOUNTING

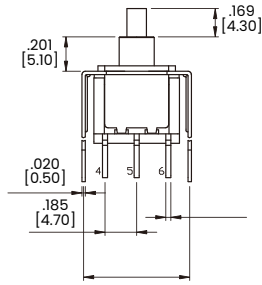
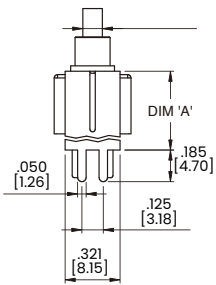


# Dimensional Specs

inches [millimeters]

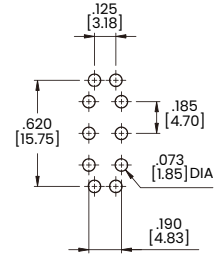
## Termination Options

### VS6-VS7 Double Pole (FOR B6 BUSHING ONLY)

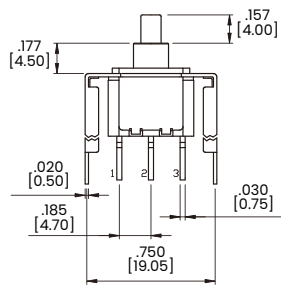
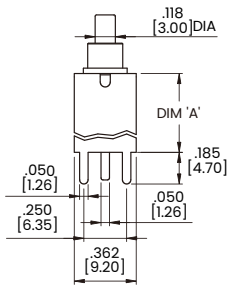


OPTION CODE	DIM.'A'
VS6	.461 [11.70]
VS7	.630 [16.00]

### P.C.MOUNTING

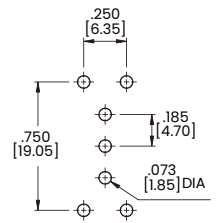


### VS8-VS9 Single Pole (FOR B6 BUSHING ONLY)

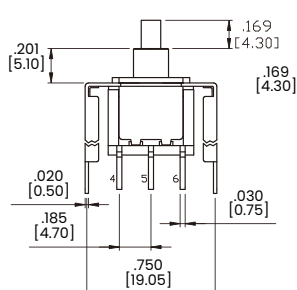
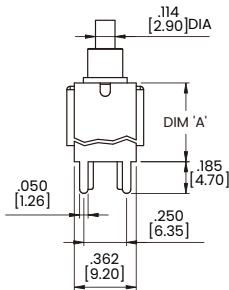


OPTION CODE	DIM.'A'
VS8	.461 [11.70]
VS9	.630 [16.00]

### P.C.MOUNTING

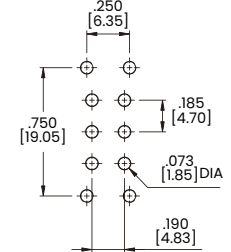


### VS8-VS9 Double Pole (FOR B6 BUSHING ONLY)



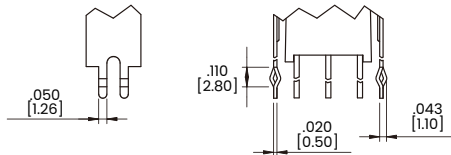
OPTION CODE	DIM.'A'
VS8	.461 [11.70]
VS9	.630 [16.00]

### P.C.MOUNTING

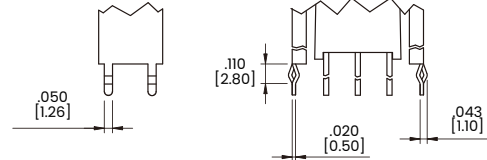


## Snap-In Termination Options

### VS21, VS31



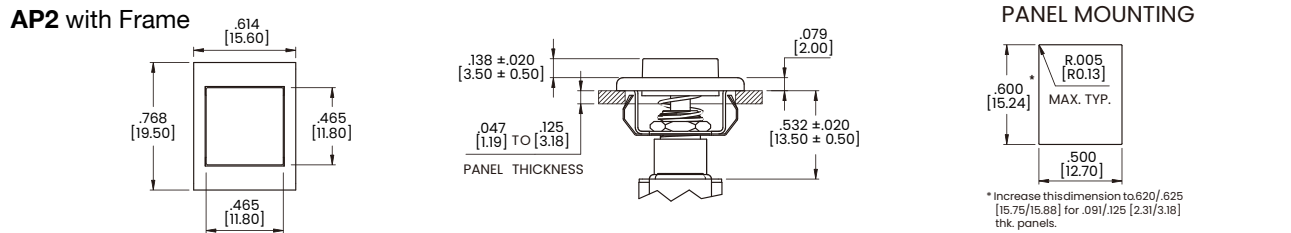
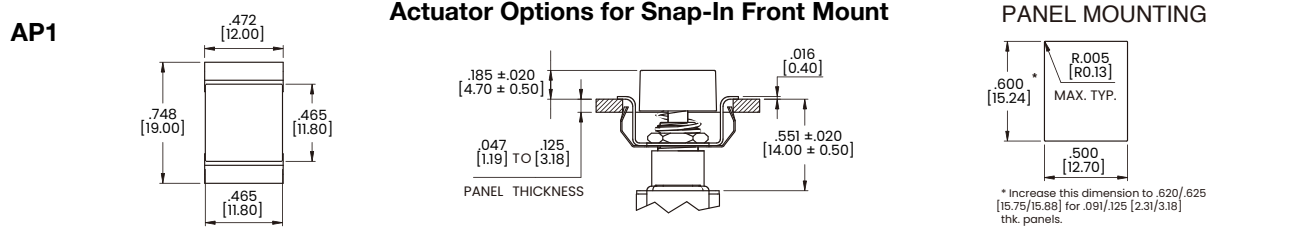
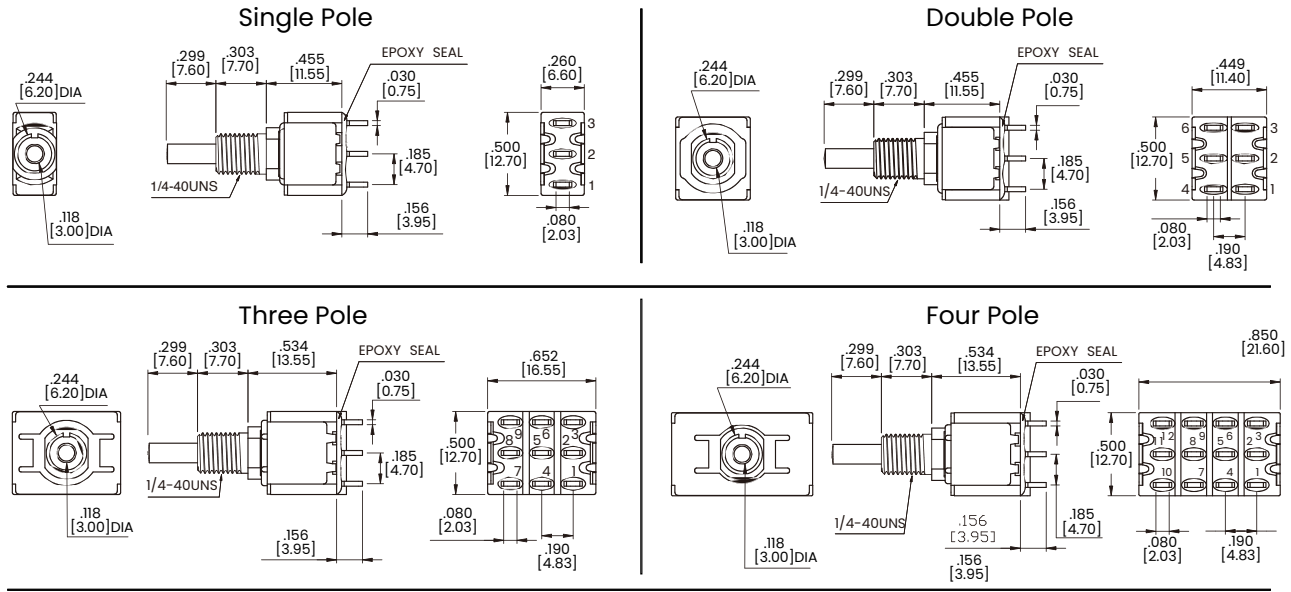
### VS41, VS51



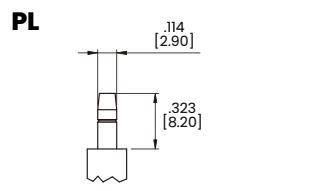
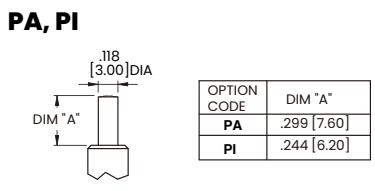
\* PC Mounting for VS21, VS31, VS41, VS51 refer to VS2, VS3, VS4, VS5 respectively.

# Dimensional Specs

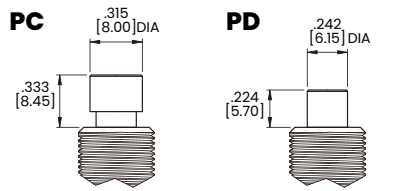
inches [millimeters]



## Plunger Options



\* Plunger material: Brass Nickel Plated

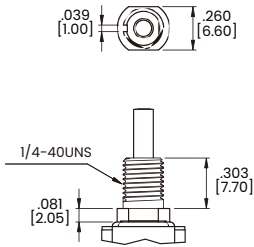


\* Plunger material: Brass Chrome Plated  
\* PC, PD must configure with BD bushing

# Dimensional Specs

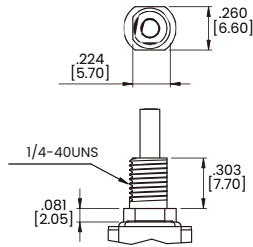
inches [millimeters]

## B10 Threaded Standard B20 Non-Threaded

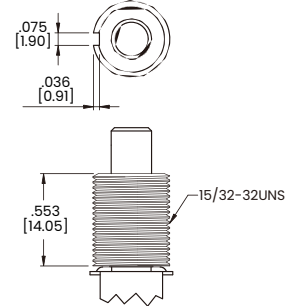


## Bushing Options

### B21 Non-Threaded

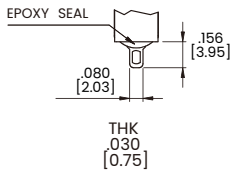


### BD Threaded Standard

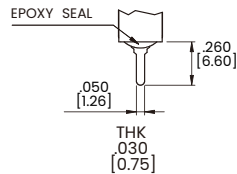


## Termination Options

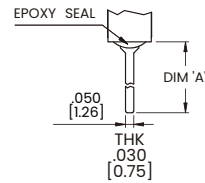
### M1 Standard Solder Lug



### M2 PC Thru-Hole

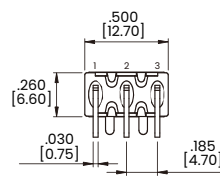
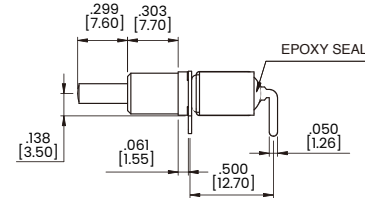
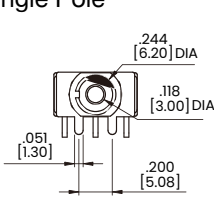


### M5 Wire Wrape

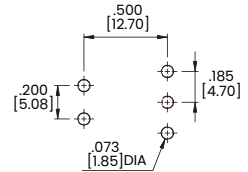


OPTION CODE	DIM.'A'
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]
M5-4	1.062 [26.97]

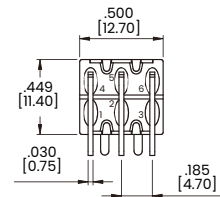
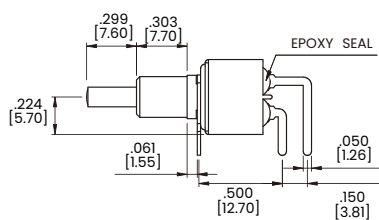
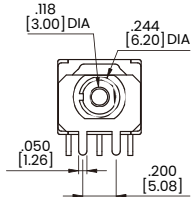
## M6 Single Pole



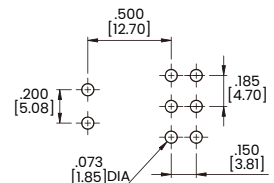
## P.C.MOUNTING



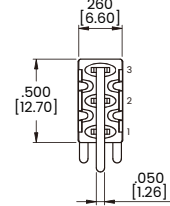
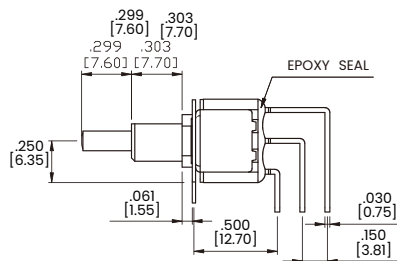
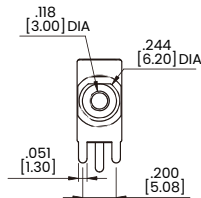
## M6 Double Pole



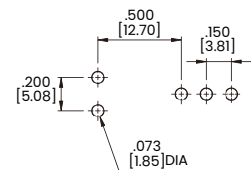
## P.C.MOUNTING



## M7 Single Pole



## P.C.MOUNTING

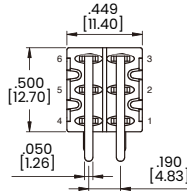
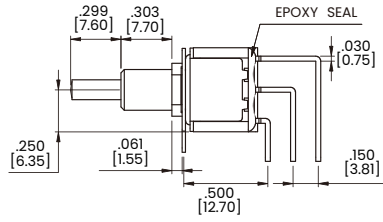
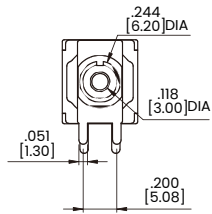


# Dimensional Specs

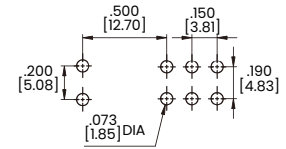
inches [millimeters]

## Termination Options

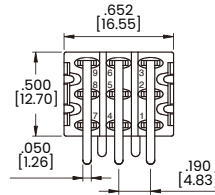
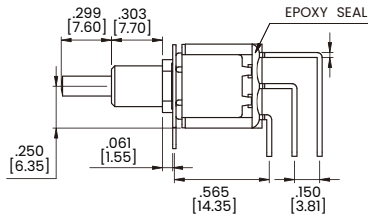
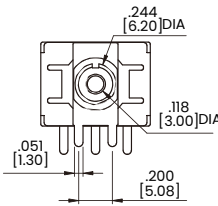
### M7 Double Pole



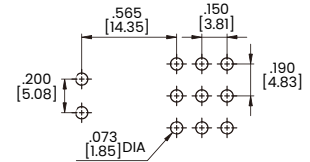
### P.C.MOUNTING



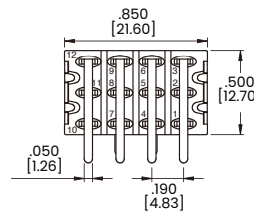
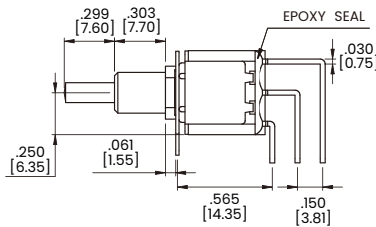
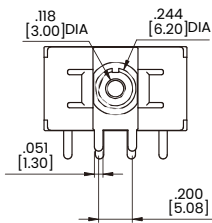
### M7 Three Pole



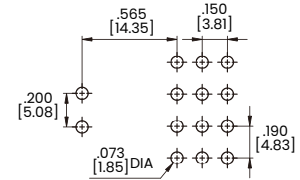
### P.C.MOUNTING



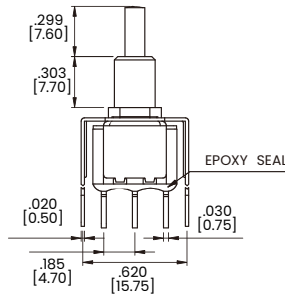
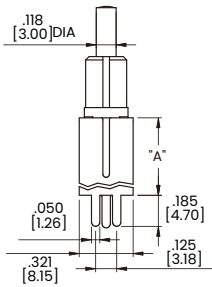
### M7 Four Pole



### P.C.MOUNTING

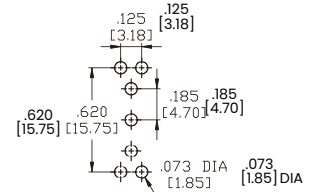


### VS2-VS3 Single Pole

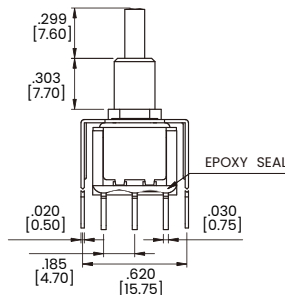
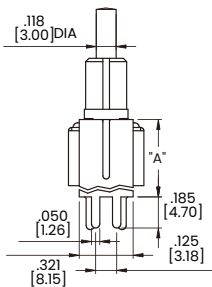


OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

### P.C.MOUNTING

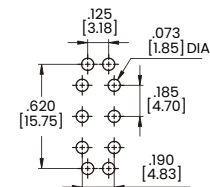


### VS2-VS3 Double Pole



OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

### P.C.MOUNTING

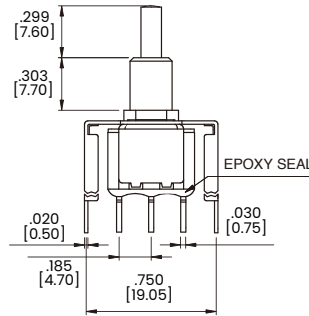
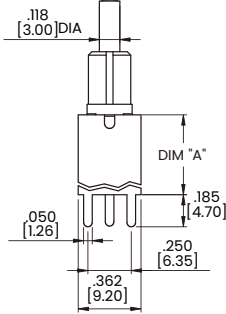


# Dimensional Specs

inches [millimeters]

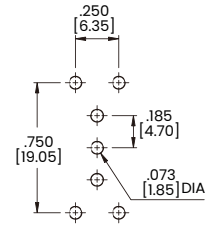
## Termination Options

### VS4-VS5 Single Pole

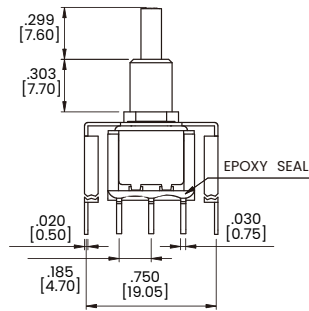
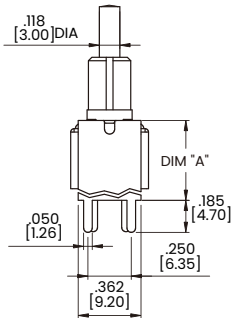


OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

### P.C.MOUNTING

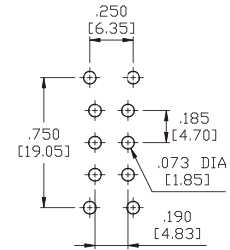


### VS4-VS5 Double Pole



OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

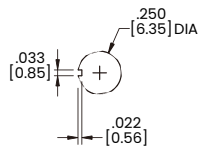
### P.C.MOUNTING



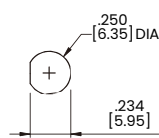
## Panel Mounting

### 1/4 INCH BUSHING

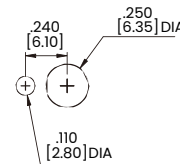
#### B10



#### B20

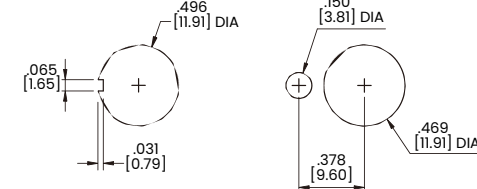


#### B21



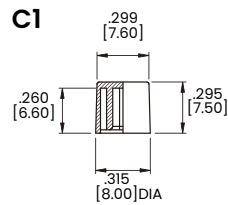
### 15/32 INCH BUSHING

#### BD

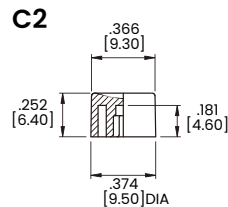


## Plunger Caps

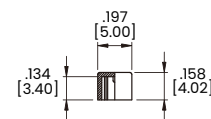
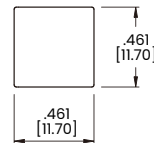
#### C1



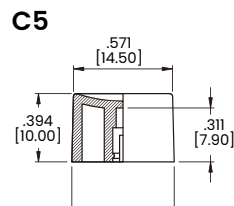
#### C2



#### C3

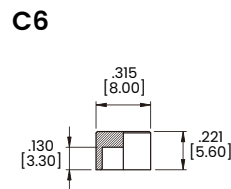


#### C5



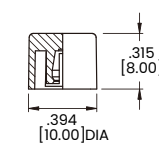
For PL plunger only

#### C6



For PD plunger only

#### C7



For PL plunger only

### CAP AND FRAME COLORS

1	White	6	Green
2	Black	7	Blue
3	Red	8	Brown
4	Orange	9	Gray
5	Yellow		

MATERIAL: ABS for C1-C5, C7  
MATERIAL: Chrome plated brass for C6

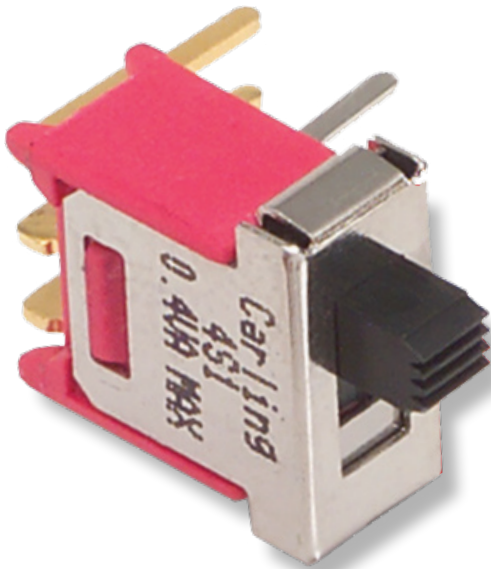
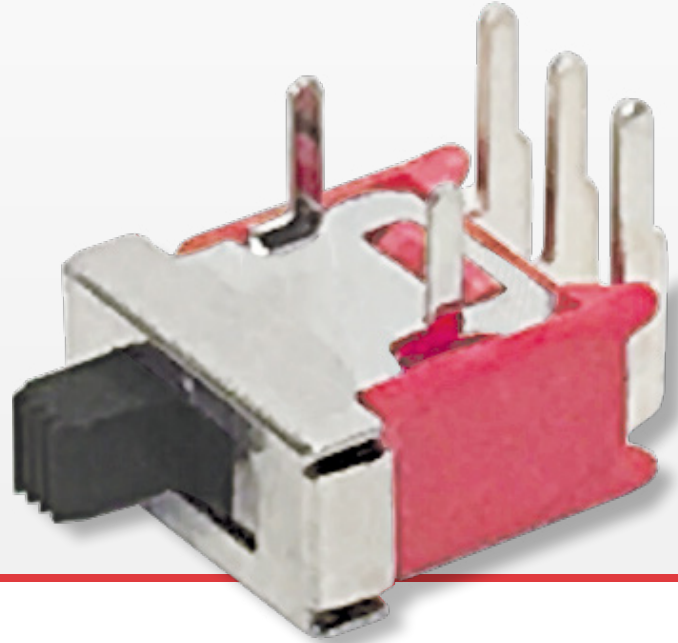


# 4S-Series

Miniature Slide Switches

**PRODUCT WEBPAGE**

*request sample, configure part*



The 4S-Series sub-miniature slide switches feature maintained and momentary 2 or 3 position circuits, and offer a variety of ratings, contact materials, terminal platings, and mounting styles. These switches are able to withstand temperatures from -30°C to +85°C.

<b>1</b>	<b>.4-3</b>	<b>125, 250</b>	<b>28</b>
Pole	Amps	VAC	VDC

## Typical Applications

- Consumer Electronics
- Instrumentation
- Computer Servers / Peripherals
- Test / Measurement

# Tech Specs

## Electrical

Contact Rating	refer to ordering scheme
Electrical Life	30,000 make & break cycles @ full load
Contact Resistance	10 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts
Insulation Resistance	1000 MΩ min.
Dielectric Strength	1500 Volts RMS @ sea level

## Physical

Operating Temperature	-30°C to +85°C
Solder Heat Resistance	MIL-STD-202, Method 210

## Material

Case	Dially phthalate (DAP) (UL 94V-0)
Slide Handle	Nylon
Housing	Stainless Steel
Terminal Seal	Epoxy

# Ordering Scheme

Sample Part Number **4S1 - FSP 1 - M6 Q E T/R**

Selection 1 2 3 4 5 6 7

### 1. SERIES

**4M1** Miniature Slide Switch

### 2. POLES

**FSP** Single Pole

### 3. CIRCUIT

( ) - momentary

Position:	1	2	3
	2-1	Connected Terminals	2-3
1	ON	NONE	ON
2	ON	NONE	(ON)
3	ON	OFF	ON

### 4. TERMINATION

**M2** PCB  
**M6** PC Mount, horizontal, right angle  
**M7** PC Mount, vertical, right angle  
**M7I** Snap-In, vertical, right angle

### 5. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating
<b>G</b> silver <sup>1</sup>	gold over silver	3A 125VAC or 28VDC; 1.5A 250VAC
<b>K</b> gold <sup>2,5</sup>	tin <sup>4,7</sup>	0.4VA max 20V max (AC/DC)
<b>P</b> silver <sup>1,6</sup>	tin <sup>4,7</sup>	3A 125VAC or 28VDC; 1.5A 250VAC
<b>Q</b> silver <sup>1</sup>	silver <sup>1</sup>	3A 125VAC or 28VDC; 1.5A 250VAC
<b>R</b> gold <sup>2</sup>	gold <sup>3</sup>	0.4VA max 20V max (AC/DC)

### 6. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

### 7. PACKAGING

**T/R** tape reel - 500 pieces per reel  
 Switches are bulk packed, unless T/R is specified at the end of the part number.

#### Notes:

- Movable contact / terminal platings: silver over copper alloy
- Movable contact platings: gold over nickel over copper alloy
- Terminal platings: gold over nickel over copper alloy
- Terminal platings: tin over copper alloy, available with PC type terminations only
- Terminal contact platings: gold over nickel alloy
- Terminal contact platings: silver over nickel alloy
- Tin option available with PC type terminations only

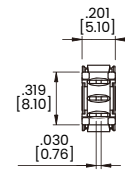
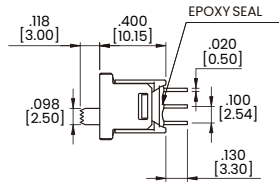
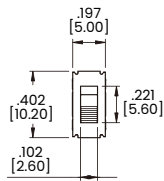
[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

# Dimensional Specs

inches [millimeters]

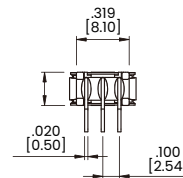
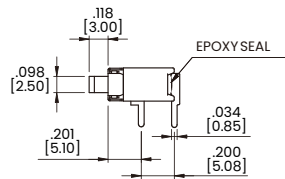
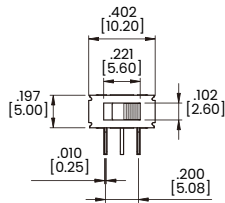
## M2 Single Pole



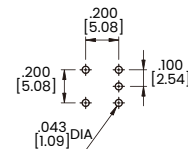
## P.C.MOUNTING



## M6 Single Pole

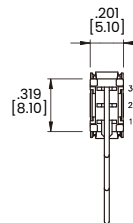
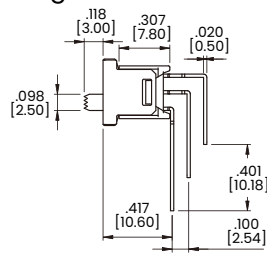
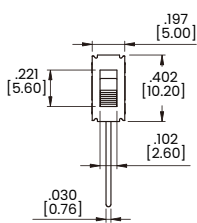


## P.C.MOUNTING

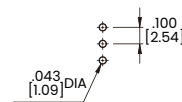


## M7 Single Pole

### M71 Snap-In Termination Single Pole



## P.C.MOUNTING

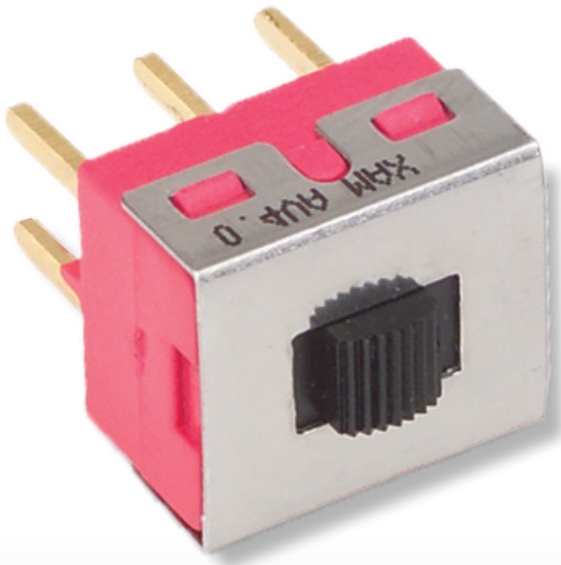
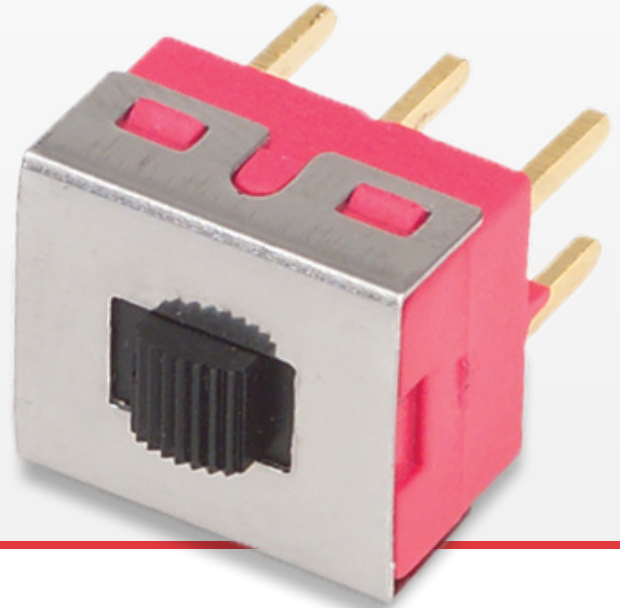


# 4M-Series

Miniature Slide Switches

**PRODUCT WEBPAGE**

*request sample, configure part*



The 4M-Series miniature slide switches offer a variety of ratings, circuits, contact materials, and terminal platings. With 14 termination choices and 8 actuator styles, this versatile switch adapts to a variety of applications, and is able to withstand temperatures from -30°C to +85°C.

<b>1-2</b>	<b>.4-5</b>	<b>125, 250</b>	<b>28</b>
Poles	Amps	VAC	VDC

## Typical Applications

- Consumer Electronics
- Instrumentation
- Computer Servers / Peripherals
- Test / Measurement

# Tech Specs

## Electrical

Contact Rating	refer to ordering scheme
Electrical Life	30,000 make & break cycles @ full load
Contact Resistance	10 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts
Insulation Resistance	1000 MΩ min.
Dielectric Strength	1500 Volts RMS @ sea level

## Physical

Operating Temperature	-30°C to +85°C
Solder Heat Resistance	MIL-STD-202, Method 210

## Material

Case	Diallyl phthalate (DAP) (UL 94V-0)
Slide Handle	Nylon
Housing	Stainless Steel
Terminal Seal	Epoxy

# Ordering Scheme

Sample Part Number

**4M1 - SSP 3 - S1 / 2 - M6 Q E**

Selection 1 2 3 4 5 6 7

### 1. SERIES

**4M1** Miniature Slide Switch

### 2. POLES

**SSP** Single Pole      **SDP** Double Pole

### 3. CIRCUIT

( ) - momentary  
**Switching Position:** 1      2      3  
 1      2-1, 5-4      Connected Terminals      2-3, 5,6  
 3      ON      NONE      ON  
          ON      OFF      ON

### 4. ACTUATOR

**S1** .201" height      **S5** .053" height (for DPDT only)  
**S2** .301" height      **S6** .488" height  
**S3** .370" height      **S7** .311" height  
**S4** .140" height      **T1** .209" height (for DPDT only)




### 5. ACTUATOR COLORS

**1** White      **6** Green  
**2** Black      **7** Blue  
**3** Red      **8** Brown  
**4** Orange      **9** Gray  
**5** Yellow

### 5. TERMINATION

**M1** Solder Lug      **M7** PC Mount, 90° vertical  
**M2** PCB      **M71** Snap-In, 90°  
**M3** Quick Connect      **VS2** PC Mount, U bracket, .350 height  
**M51** Wire Wrap .750      **VS3** PC Mount, U bracket, .575 height  
**M52** Wire Wrap .964      **N1** Solder Lug without mounting tabs  
**M53** Wire Wrap .425  
**M54** Wire Wrap 1.062  
**M6** PC Mount, 90° horizontal  
**M61** Snap-In, 90°

### 6. CONTACTS / TERMINALS

Contact	Material	Terminal Plating	Rating	Approvals
<b>G</b>	silver <sup>1</sup>	gold over silver	5A 125VAC or 28VDC 2A 250VAC	
<b>K</b>	gold <sup>2</sup>	tin <sup>3,5</sup>	0.4VA max 20V max (AC/DC)	N/A
<b>P</b>	silver <sup>1</sup>	tin <sup>3,5</sup>	5A 125VAC or 28VDC 2A 250VAC	
<b>Q</b>	silver <sup>1</sup>	silver <sup>1</sup>	5A 125VAC or 28VDC 2A 250VAC	
<b>R</b>	gold <sup>2</sup>	gold <sup>2</sup>	0.4VA max 20V max (AC/DC)	N/A

### 7. EPOXY SEAL

**E** Epoxy Seal      **0** without Epoxy Seal

#### Notes:

- Movable contact & terminal platings: silver over copper alloy
- Movable contact & terminal platings: gold over nickel over copper alloy
- Terminal platings: tin over nickel over copper alloy, available with PC terminations only
- Non-Black, white and red colors require a minimum order of 2500 pieces
- Tin option available with PC type terminations only

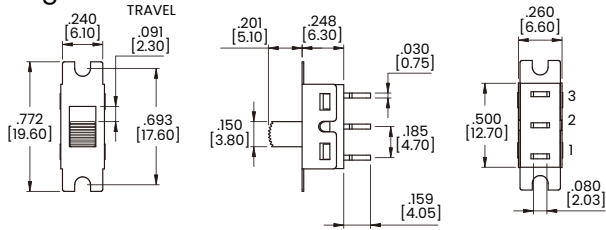
[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

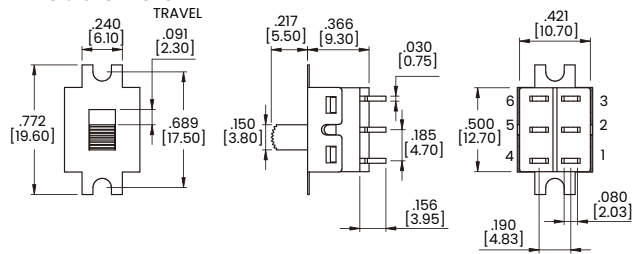
# Dimensional Specs

inches [millimeters]

## Single Pole



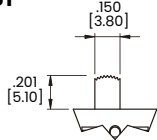
## Double Pole



## Actuator Options

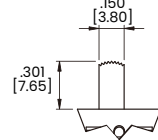
\* All actuator length shown is SPDT model with M1 and M2 terminals.

### S1



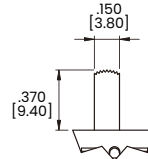
\* Add 0.40 (.016) from actuator height for DPDT-M1 and M2 model.

### S2



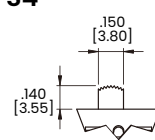
\* Add 0.20 (.008) from actuator height for DPDT-M1 and M2 model.

### S3



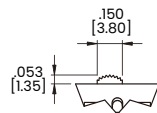
\* Add 0.30 (.012) from actuator height for DPDT-M1 and M2 model.

### S4

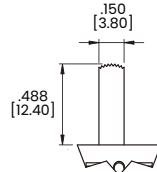


\* Add 0.40 (.016) from actuator height for DPDT-M1 and M3 model.

### S5

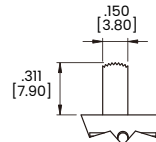


### S6



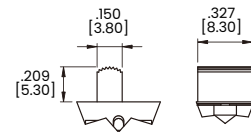
\* Add 0.70 (.028) from actuator height for DPDT-M1 and M2 model.

### S7



\* Add 0.40 (.016) from actuator height for DPDT-M1 and M2 model.

### T1 for DPDT only

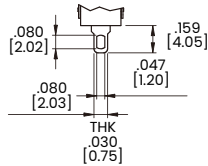


# Dimensional Specs

inches [millimeters]

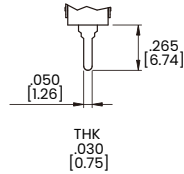
## Termination Options

**M1 Standard Solder Lug**

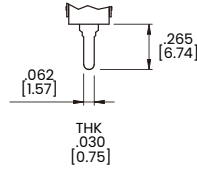


\* Standard with Mounting Tabs.

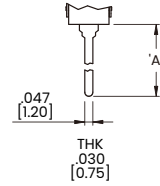
**M2 PC Thru-Hole**



**M3 Quick Connect**



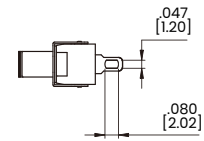
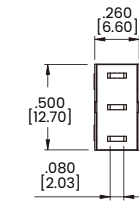
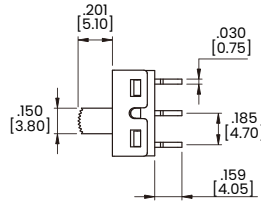
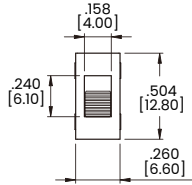
**M5 Wire Wrap**



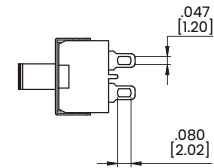
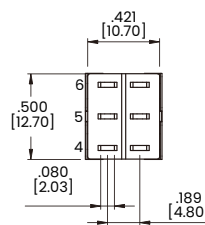
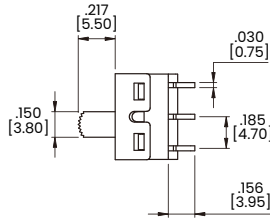
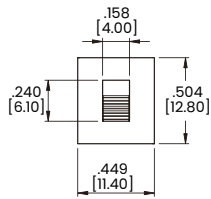
OPTION CODE	DIM.'A'
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]
M5-4	1.062 [26.97]

## Termination Options without Mounting Tabs

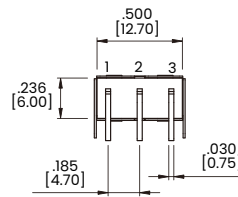
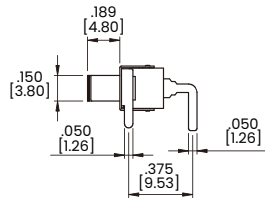
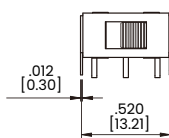
**N1 Single Pole**



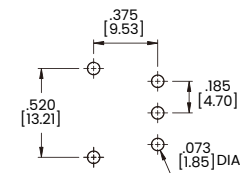
**N1 Double Pole**



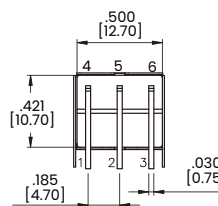
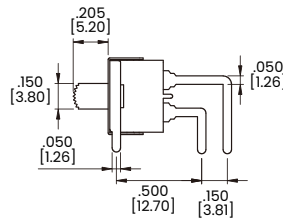
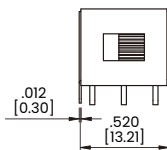
**M6 Single Pole**



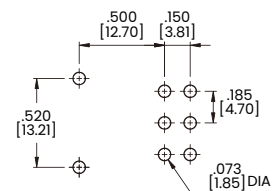
**P.C.MOUNTING**



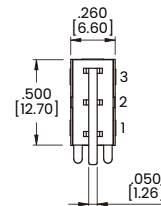
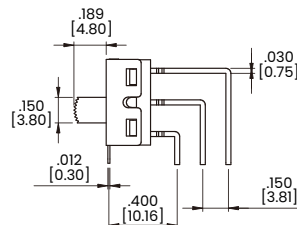
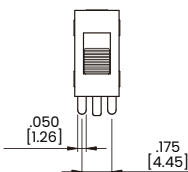
**M6 Double Pole**



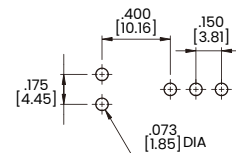
**P.C.MOUNTING**



**M7 Single Pole**



**P.C.MOUNTING**

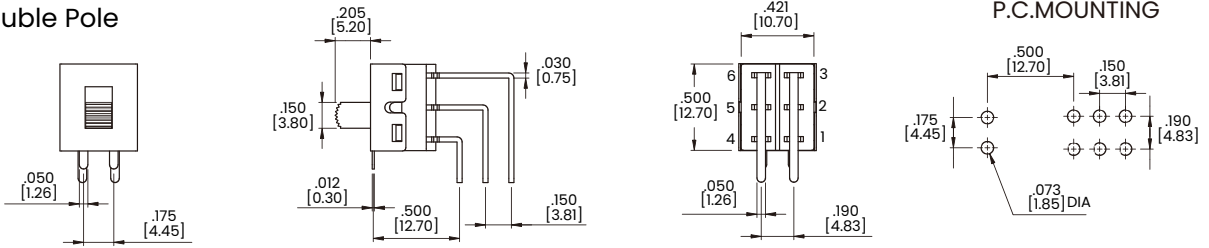


# Dimensional Specs

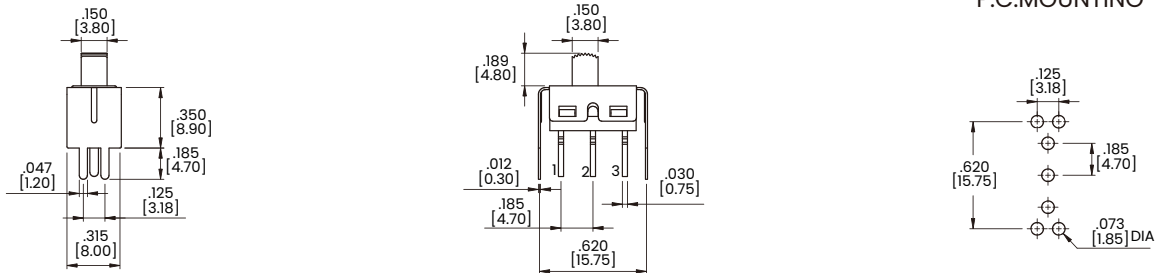
inches [millimeters]

## Termination Options

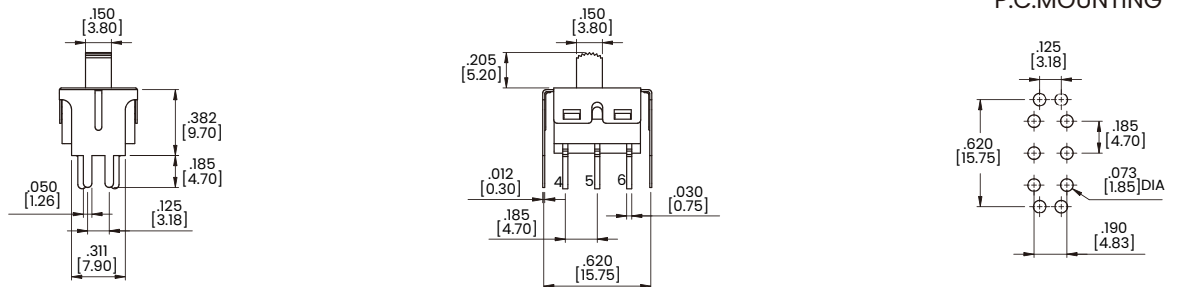
### M7 Double Pole



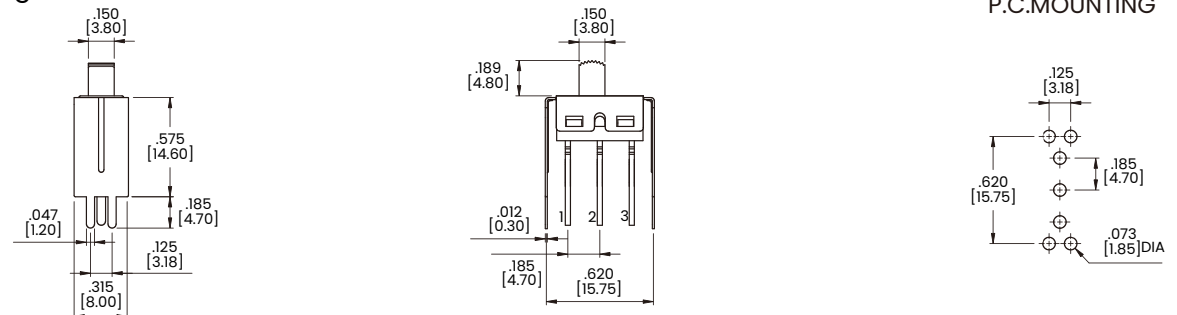
### VS2 Single Pole



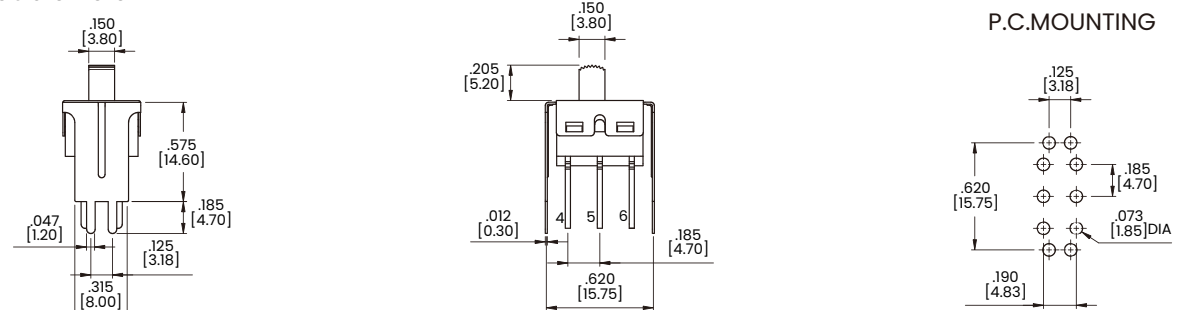
### VS2 Double Pole



### VS3 Single Pole



### VS3 Double Pole





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