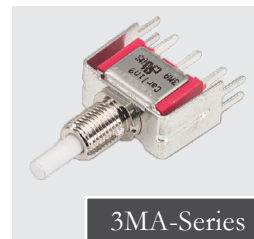
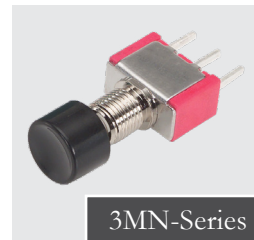
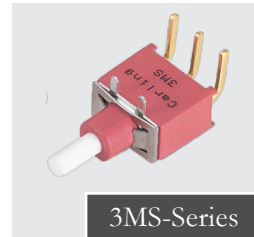


# 3M-Series

## MINIATURE PUSHBUTTONS

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.



### Product Highlights:

- IP67 Sealing
- Snap Action Contact Mechanism
- Variety of Plunger and Bushing Lengths
- Up to 14 Termination Choices
- UL and cUL Approvals
- Sleek Black Finish

### Typical Applications:

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



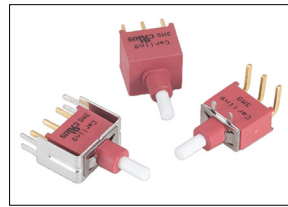
**Carling Technologies®**  
Innovative Designs. Powerful Solutions.

**Techna**

[www.techna.co.uk](http://www.techna.co.uk)



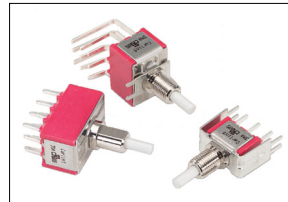
**3MNH-Series**  
Premium Sealed  
Miniature Pushbutton Switch



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



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



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

### Electrical

Contact Rating	refer to ordering scheme
Electrical Life	50,000 make & break cycles @ full load
Contact Resistance	<i>3MS-Series:</i> 50 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts. <i>3MN, 3MA &amp; 3NMH-Series:</i> 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	<i>3MS-Series:</i> IP68 <i>3MNH-Series:</i> IP67
Cap Installation Support	<i>3MS-Series:</i> 10 lbs. max.
Solder Heat Resistance	MIL-STD-202, Method 210

### Material

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

\*Manufacturer reserves the right to change product specification without prior notice.

**3MNH** - **DP** **1** - **PJ** - **BJ** - **M2** - **Q** **E**

1 Series      2 Pole      3 Circuit      4 Plunger      5 Bushing      6 Termination      7 Contacts      8 Seal

**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 PLUNGER 1**

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



**5 BUSHING 2**

**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, .711" [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) 6A@125VAC or 28VDC 3A@250VAC (SP7, DP7) 1A@120VAC or 38VDC	c  us, IP67
<b>Q</b>	silver <sup>5</sup>	silver <sup>5</sup>	(SP1, DP1) 6A@125VAC or 28VDC 3A@250VAC (SP7, DP7) 1A@120VAC or 38VDC	c  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

Notes:

- 1 PJ Plunger for maintained circuits only. PA and PB Plunger for momentary circuits only
- 2 Hardware includes (1) 2M1-HDW4 nut and (1) 3MNH-WCP-0872 o-ring
- 3 BJ Bushing only available with PJ Plunger
- 4 BL Bushing only available with PA or PB Plunger
- 5 Movable contact & terminal platings: silver over copper alloy
- 6 Movable Contact platings: gold over nickel over copper alloy
- 7 Terminal platings: gold over nickel over copper alloy

**3MS** - **WSP** **7** - **P1** - **B1** - **M6** **Q** **E**

1 Series      2 Pole      3 Circuit      4 Actuator Style      5 Bushing      6 Termination      7 Contacts      8 Seal

**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 ON	2-1, 5-4 (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]

**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	c  us, IP68
<b>Q</b>	silver <sup>3</sup>	silver <sup>3</sup>	1A 120VAC or 38VDC	c  us, IP68
<b>R</b>	gold <sup>2</sup>	gold <sup>2</sup>	0.4VA max 20V max (AC/DC)	IP68

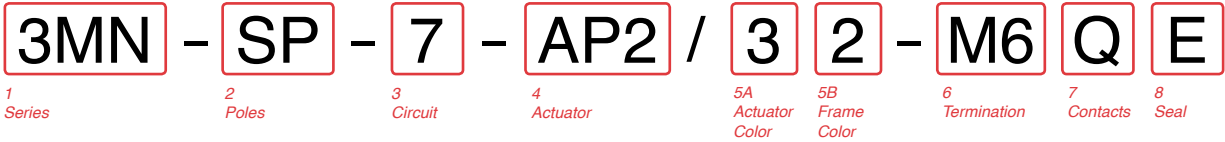
**8 EPOXY SEAL**

**E** Epoxy Seal      0      without Epoxy Seal

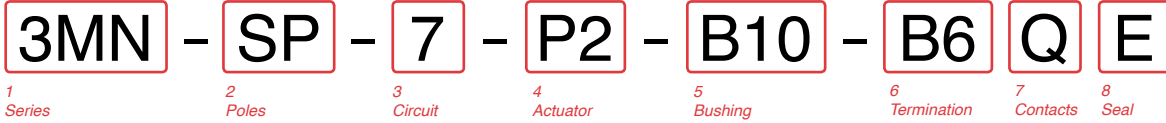
Notes:

- 1 Hardware includes (2) 2M1-HDW2 nuts, (1) 2M1-HDW11 washer, and (1) 2M1-HDW15 locking ring
- 2 Movable contact and terminal platings: gold over nickel over copper alloy
- 3 Movable contact and terminal platings: silver over copper alloy

### 3MN-Series with Square Actuator



### 3MN-Series with Plunger Actuator



#### 1 SERIES

**3MN** Snap-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

#### 3 CIRCUIT

( ) - momentary

<b>Switching Position:</b>	<b>1</b>	<b>2</b>
	2-3, 5-6	2-1, 5-4
<b>7</b>	ON	(ON)

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

#### 4 ACTUATOR

**Square Actuator** (use with Color Options in Selection 5A & 5B)

**AP1** Square with no frame  
**AP2** Square raised above frame  
**AP3** Square flush with frame

**Plunger Actuator** (use with Bushing Options in Selection 5)

**P0** Flush Plunger  
**P1** Standard Plunger  
**P2** Short Plunger

#### 5A ACTUATOR COLOR & 5B FRAME COLOR <sup>3,4</sup>

**1** White  
**2** Black  
**3** Red

#### OR

#### 5B BUSHING

**B6** Unthreaded (for terminations VS6-VS9 only)  
**B10**<sup>1</sup> Threaded keyway  
**B11**<sup>2</sup> Threaded with flat  
**B20** Unthreaded keyway  
**B21** Unthreaded with flat

#### 6 TERMINATION

**M1** Solder Lug  
**M2** PCB  
**M51** Wire Wrap .750 [19.05]  
**M52** Wire Wrap .964 [24.40]  
**M53** Wire Wrap .425 [10.80]  
**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  
**VS6** PC Mount, U bracket, .461 height (for B6 bushing only)  
**VS7** PC Mount, U bracket, .630 height (for B6 bushing only)  
**VS8** PC Mount, U bracket, .461 height (for B6 bushing only)  
**VS9** PC Mount, U bracket, .630 height (for B6 bushing only)

#### 7 CONTACTS / TERMINALS

	Contact Material	Terminal Plating	Rating	Approvals
<b>G</b>	silver	gold over silver	1A 125VAC or 28VDC	
<b>Q</b>	silver <sup>5</sup>	silver <sup>5</sup>	1A 125VAC or 28VDC	
<b>R</b>	gold <sup>6</sup>	gold <sup>6</sup>	0.4VA max 20V max (AC/DC)	

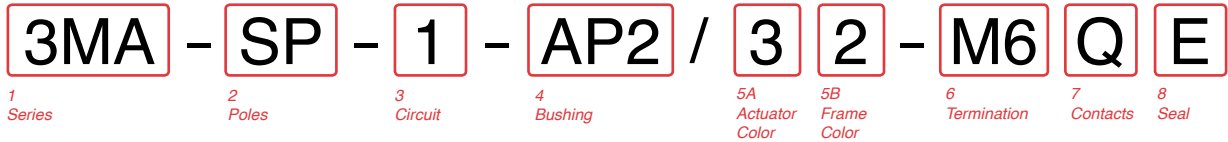
#### 8 EPOXY SEAL

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

#### Notes:

- Hardware includes (2) 2M1-HDW2 nuts, (1) 2M1-HDW11 washer, and (1) 2M1-HDW15 locking ring
- Hardware includes (2) 2M1-HDW2 nuts, (1) 2M1-HDW11 washer, and (1) 2M1-HDW16 locking ring
- Selection 5B is blank if actuator style is AP1 (no frame)
- Black, white and red are standard. Other colors available, consult factory for details.
- Movable contact & terminal platings: silver over copper alloy
- Movable contact & terminal platings: gold over nickel over copper alloy

## 3MA-Series with Square Actuator



## 3MA-Series with Plunger Actuator



### 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 4.5

<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

### OR




### 5 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	c  us
			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	c  us
			3A 250VAC	
<b>Q</b>	silver <sup>6</sup>	silver <sup>6</sup>	6A 125VAC or 28VDC	c  us
			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

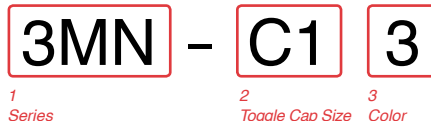
### Notes:

- Hardware includes (2) 2M1-HDW2 nuts, (1) 2M1-HDW12 washer, and (1) 2M1-HDW17 locking ring
- Hardware includes (2) 2M1-HDW2 nuts, (1) 2M1-HDW11 washer, and (1) 2M1-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

## 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



### 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

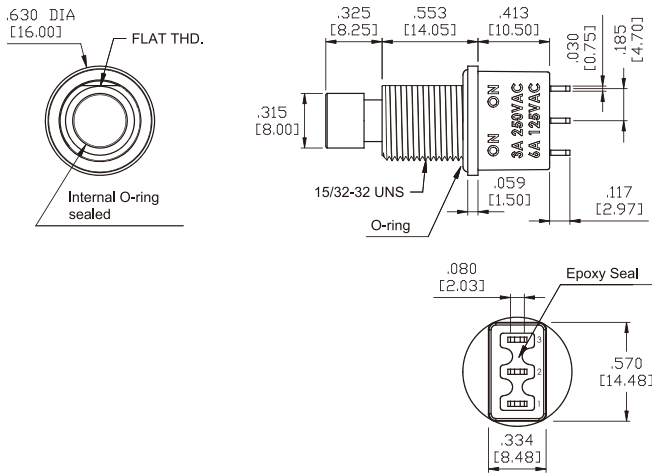
<b>1</b> White	<b>4</b> Orange
<b>2</b> Black	<b>5</b> Yellow
<b>3</b> Red	<b>6</b> Green
	<b>7</b> Blue

### Notes:

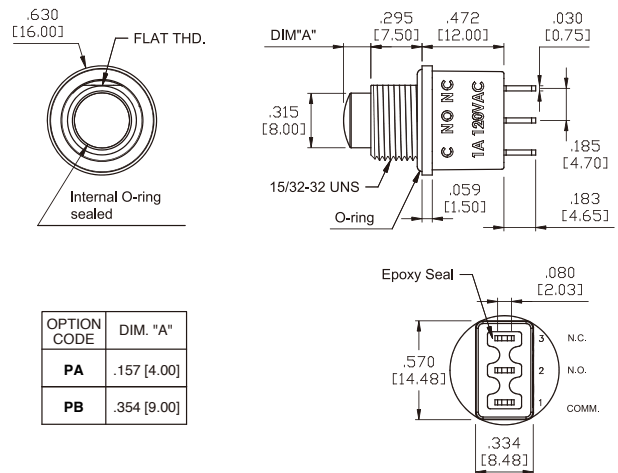
- For 3MA with PL Bushing
- For 3MA with PD Bushing

## 3MNH-Series Dimensional Specifications: in. [mm]

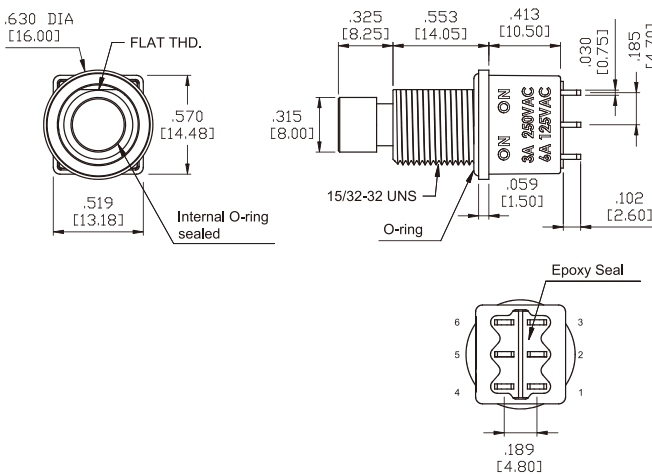
### Single Pole Maintained Circuit



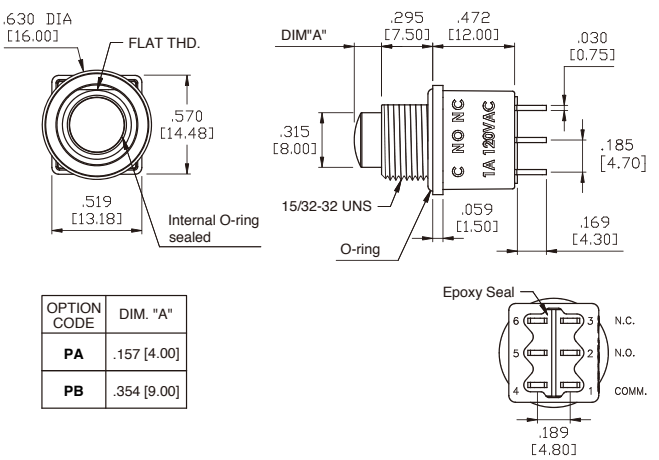
### Single Pole Momentary Circuit



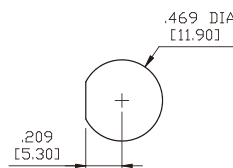
### Double Pole Maintained Circuit



### Double Pole Momentary Circuit

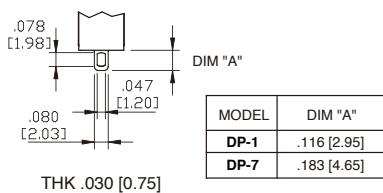


### Panel Mounting



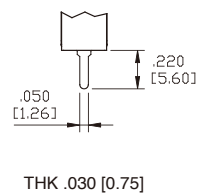
15/32-32 UNS FLAT-CUT  
THREADED BUSHING

### M1 Standard Solder Lug

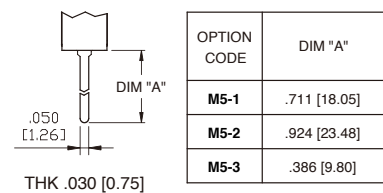


### Termination Options

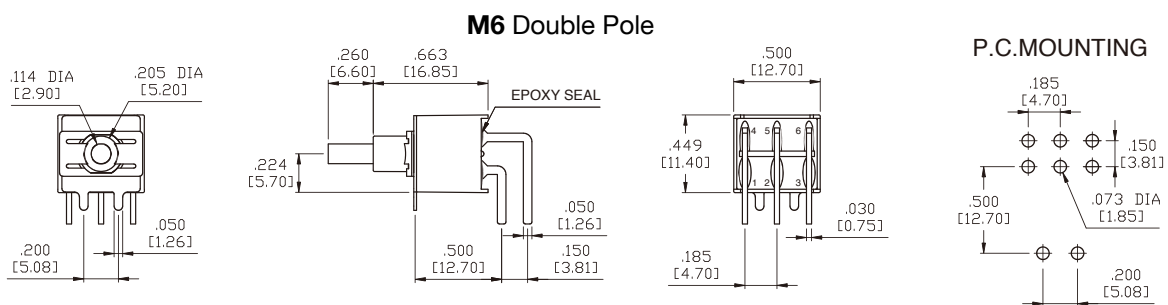
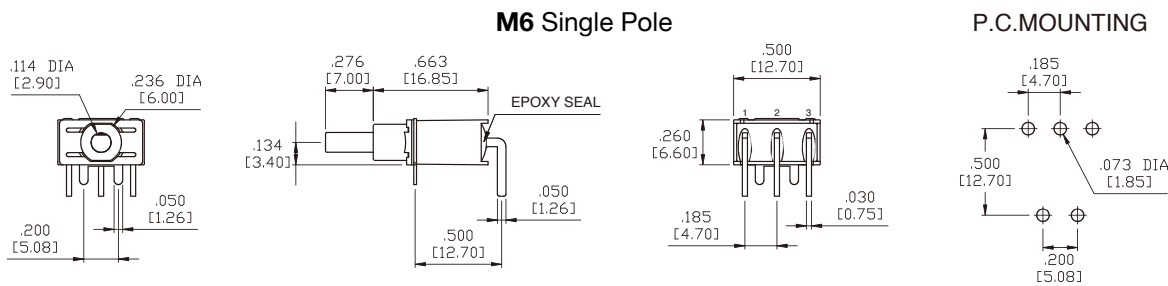
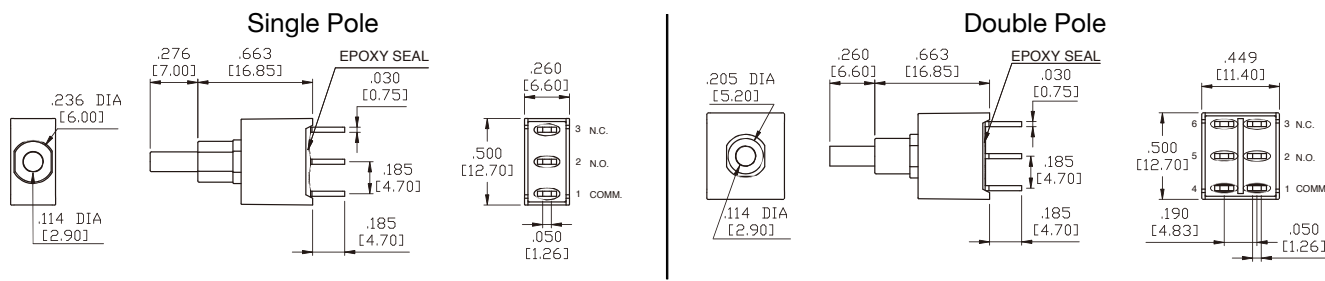
#### M2 PC Thru-Hole



#### M5 Wire Wrap

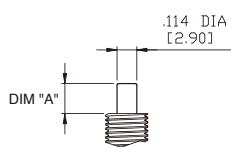


## 3MS-Series Dimensional Specifications: in. [mm]



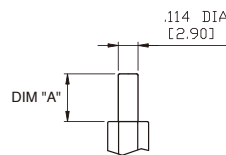
### Plunger Options

#### For B1 Bushing



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

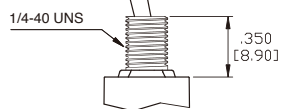
#### For B4 Bushing



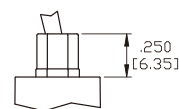
OPTION CODE	DIM. "A"
P1	.276 [7.00]
P2	.323 [8.20]
P3	.181 [4.60]

### Bushing Options

#### B1



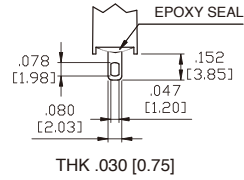
#### B4



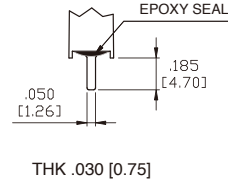
## 3MS-Series Dimensional Specifications: in. [mm]

### Termination Options

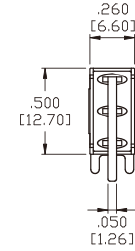
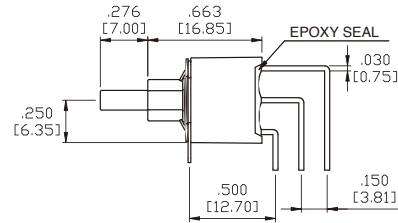
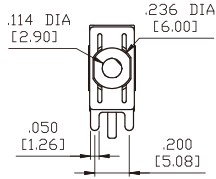
**M1**



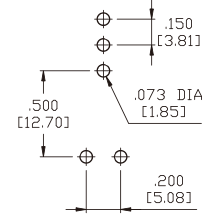
**M2**



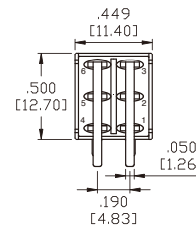
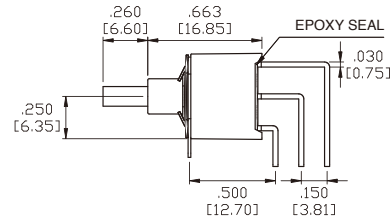
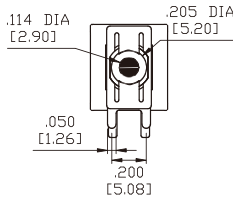
### M7 Single Pole



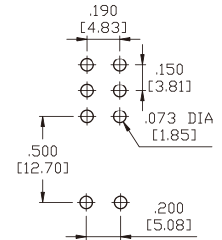
### P.C.MOUNTING



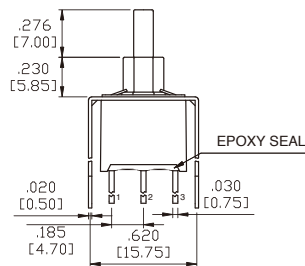
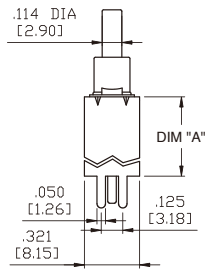
### M7 Double Pole



### P.C.MOUNTING

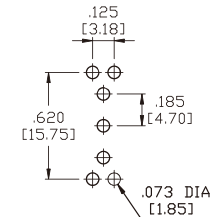


### VS2-VS3 Single Pole

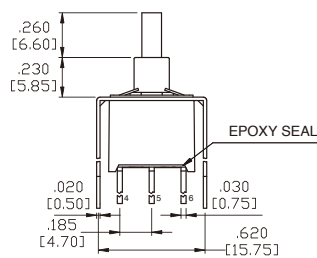
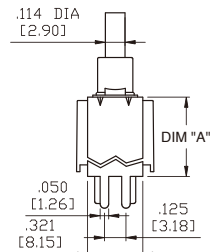


OPTION CODE	DIM. 'A'
<b>VS2</b>	.461 [11.70]
<b>VS3</b>	.630 [16.00]

### P.C.MOUNTING

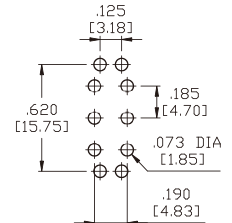


### VS2-VS3 Double Pole



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

### P.C.MOUNTING

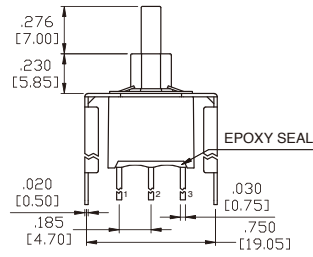
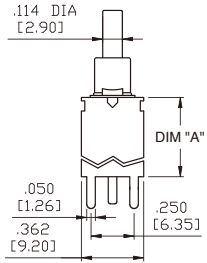




## 3MS-Series Dimensional Specifications: in. [mm]

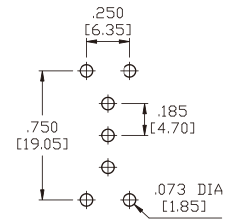
### Termination Options

#### VS4-VS5 Single Pole

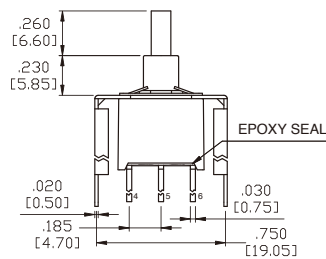
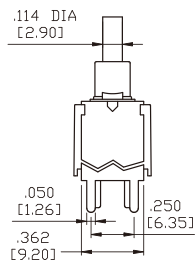


OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

#### P.C.MOUNTING

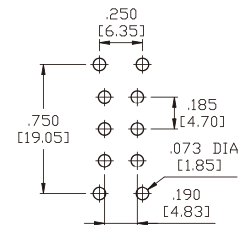


#### VS4-VS5 Double Pole



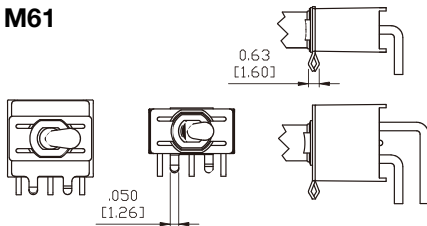
OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

#### P.C.MOUNTING

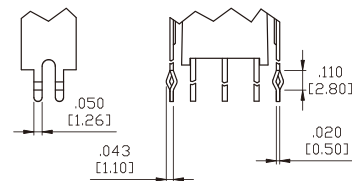


### Snap-In Termination Options

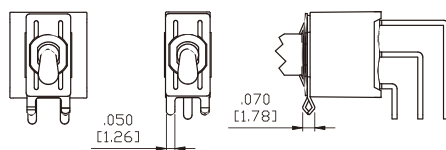
#### M61



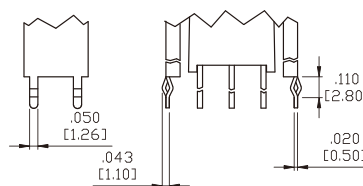
#### VS21, VS31



#### M71

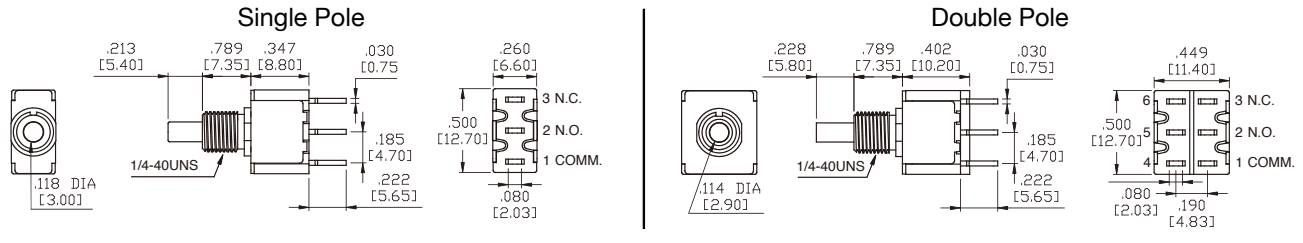


#### VS41, VS51



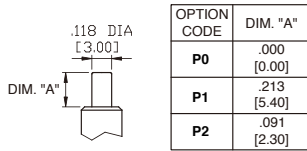
\* PC Mounting for M61, M71, VS21, VS31, VS41, VS51 refer to M6, M7, VS2, VS3, VS4, VS5 respectively.

## 3MN-Series Dimensional Specifications: in. [mm]

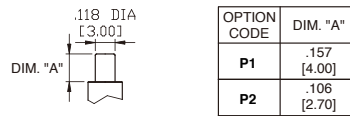


### Plunger Options

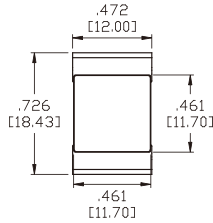
For B1, B2, B3, B4 Bushing



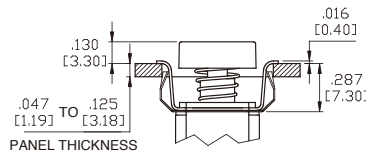
For B6 Bushing



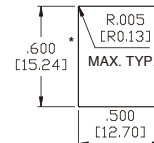
AP1



### Actuator Options for Snap-In Front Mount

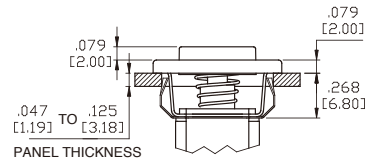
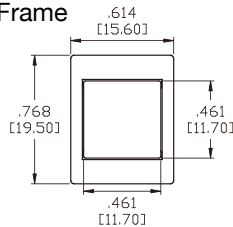


PANEL MOUNTING

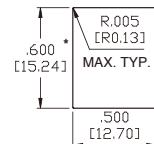


\* Increase this dimension to .620/.625 [15.75/15.88] for .091/.125 [2.31/3.18] thk. panels.

AP2 with Frame

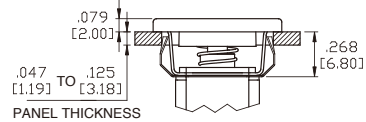
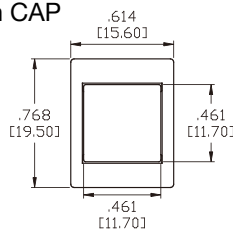


PANEL MOUNTING

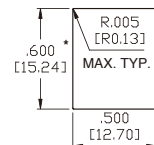


\* Increase this dimension to .620/.625 [15.75/15.88] for .091/.125 [2.31/3.18] thk. panels.

AP3 Flush CAP



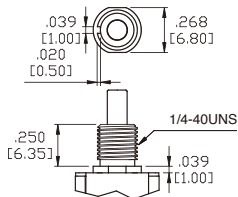
PANEL MOUNTING



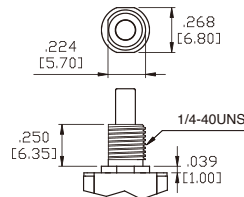
\* Increase this dimension to .620/.625 [15.75/15.88] for .091/.125 [2.31/3.18] thk. panels.

### Bushing Options

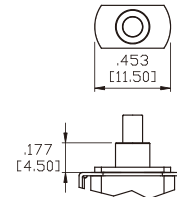
B1 Threaded Standard  
B2 Non-Threaded



B3 Threaded Standard  
B4 Non-Threaded



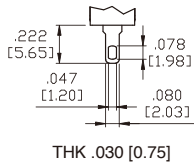
B6 Non-Threaded  
(FOR TERMINATION OPTIONS VS6-VS9 ONLY)



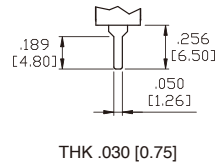
## 3MN-Series Dimensional Specifications: in. [mm]

### Termination Options

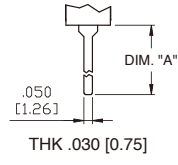
**M1 Standard Solder Lug**



**M2 PC Thru-Hole**

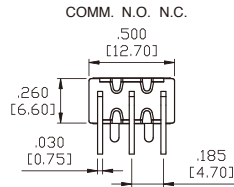
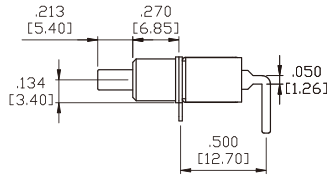
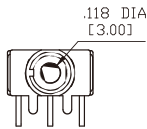


**M5 Wire Wrap**

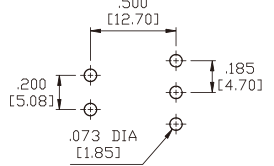


OPTION CODE	DIM. "A"
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]

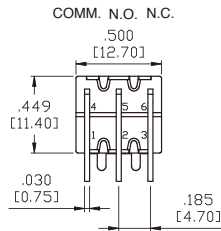
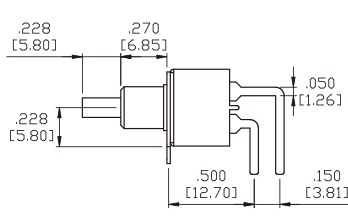
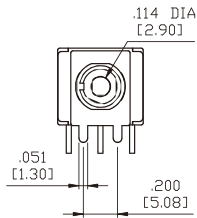
**M6 Single Pole**



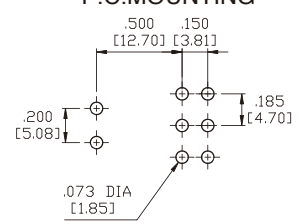
**P.C.MOUNTING**



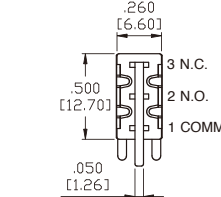
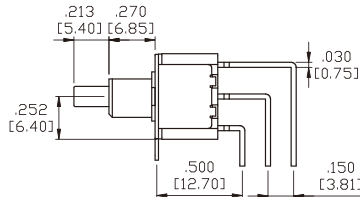
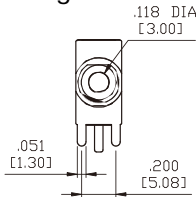
**M6 Double Pole**



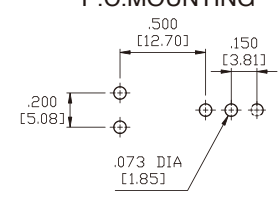
**P.C.MOUNTING**



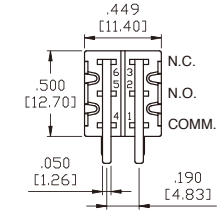
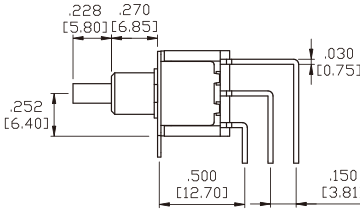
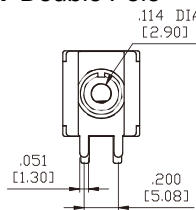
**M7 Single Pole**



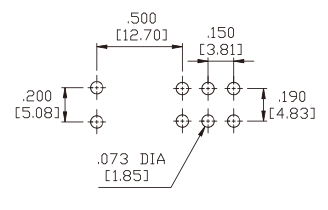
**P.C.MOUNTING**



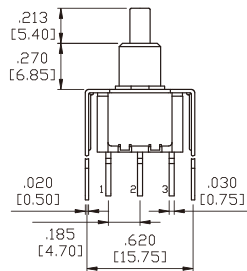
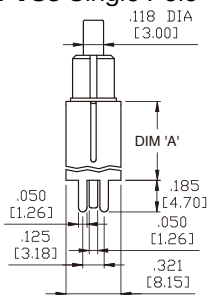
**M7 Double Pole**



**P.C.MOUNTING**

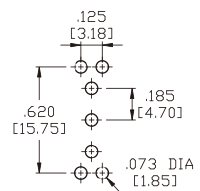


**VS2-VS3 Single Pole**



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

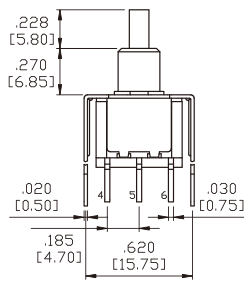
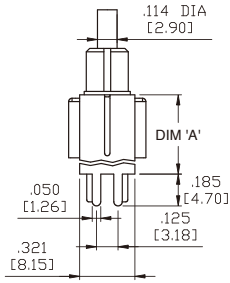
**P.C.MOUNTING**



## 3MN-Series Dimensional Specifications: in. [mm]

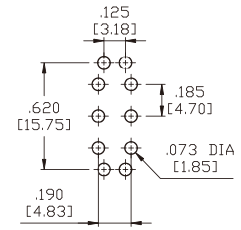
### Termination Options

#### VS2-VS3 Double Pole

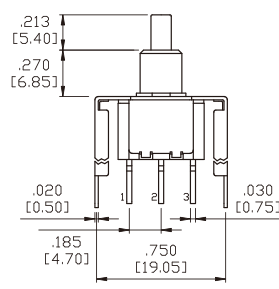
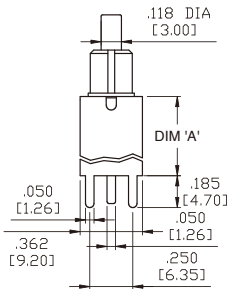


OPTION CODE	DIM.'A'
<b>VS2</b>	.461 [11.70]
<b>VS3</b>	.630 [16.00]

#### P.C.MOUNTING

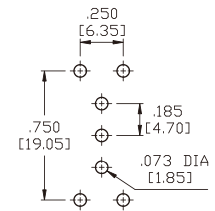


#### VS4-VS5 Single Pole

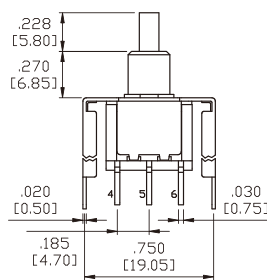
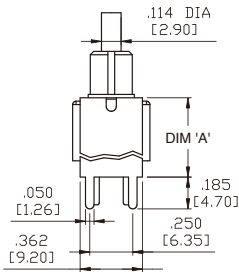


OPTION CODE	DIM.'A'
<b>VS4</b>	.461 [11.70]
<b>VS5</b>	.630 [16.00]

#### P.C.MOUNTING

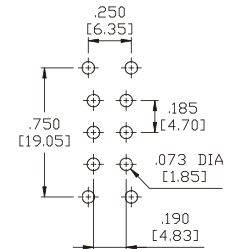


#### VS4-VS5 Double Pole



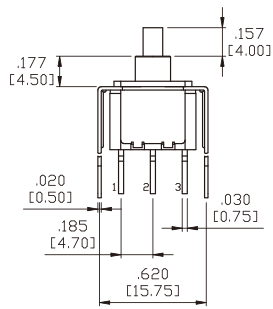
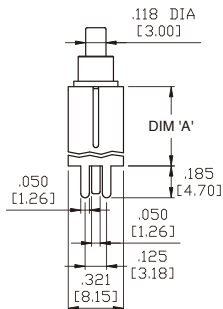
OPTION CODE	DIM.'A'
<b>VS4</b>	.461 [11.70]
<b>VS5</b>	.630 [16.00]

#### P.C.MOUNTING



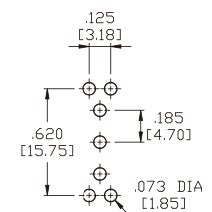
#### VS6-VS7 Single Pole

(FOR B6 BUSHING ONLY)



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

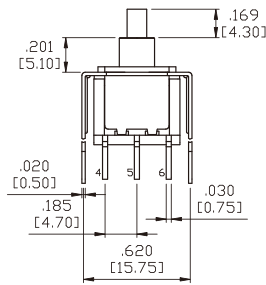
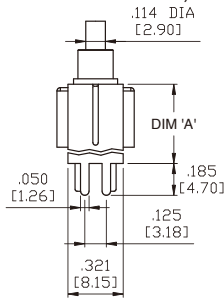
#### P.C.MOUNTING



## 3MN-Series Dimensional Specifications: in. [mm]

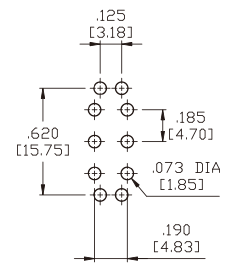
### Termination Options

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

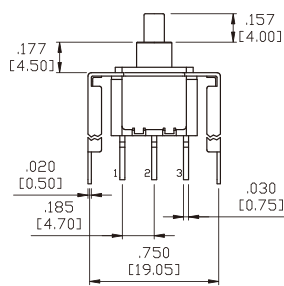
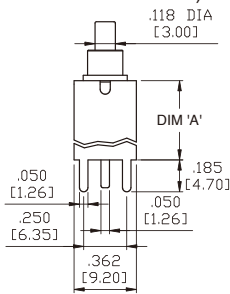


OPTION CODE	DIM. 'A'
VS6	.461 [11.70]
VS7	.630 [16.00]

#### P.C.MOUNTING

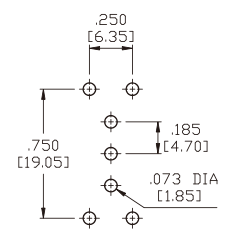


#### VS8-VS9 Single Pole (FOR B6 BUSHING ONLY)

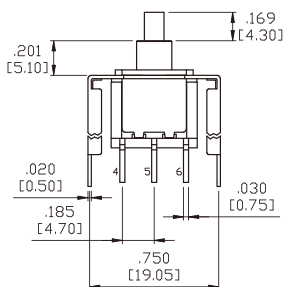
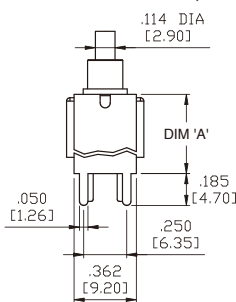


OPTION CODE	DIM. 'A'
VS8	.461 [11.70]
VS9	.630 [16.00]

#### P.C.MOUNTING

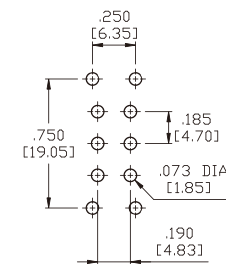


#### VS8-VS9 Double Pole (FOR B6 BUSHING ONLY)



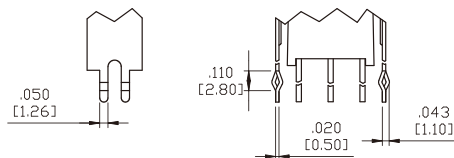
OPTION CODE	DIM. 'A'
VS8	.461 [11.70]
VS9	.630 [16.00]

#### P.C.MOUNTING

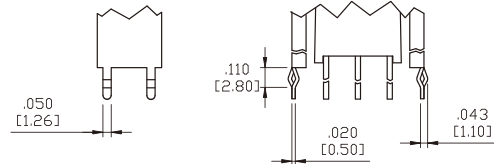


### Snap-In Termination Options

#### VS21, VS31

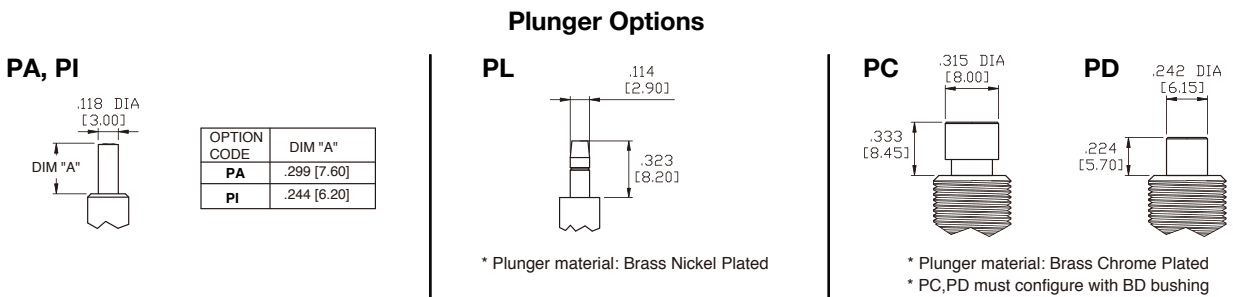
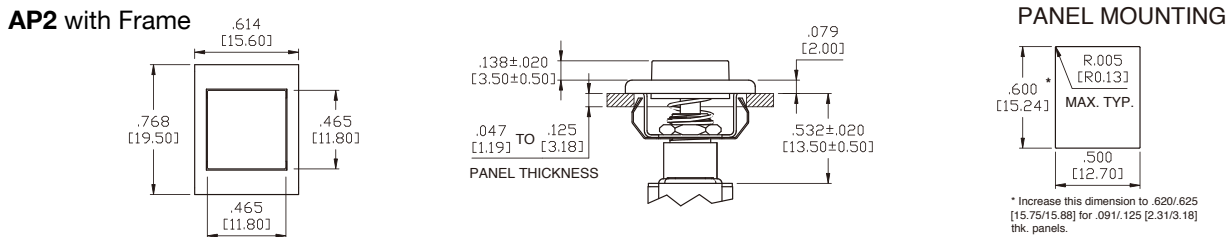
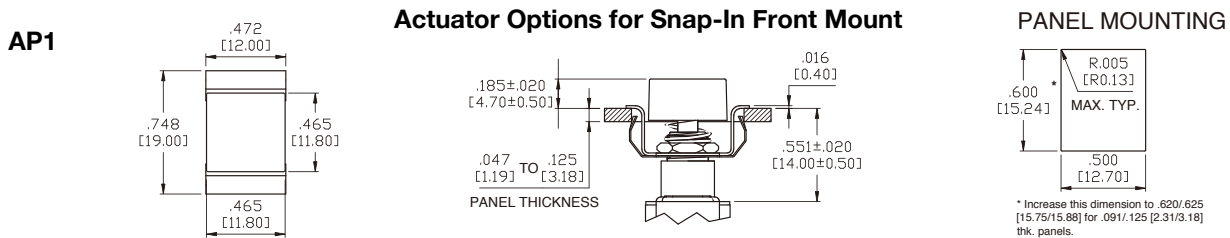
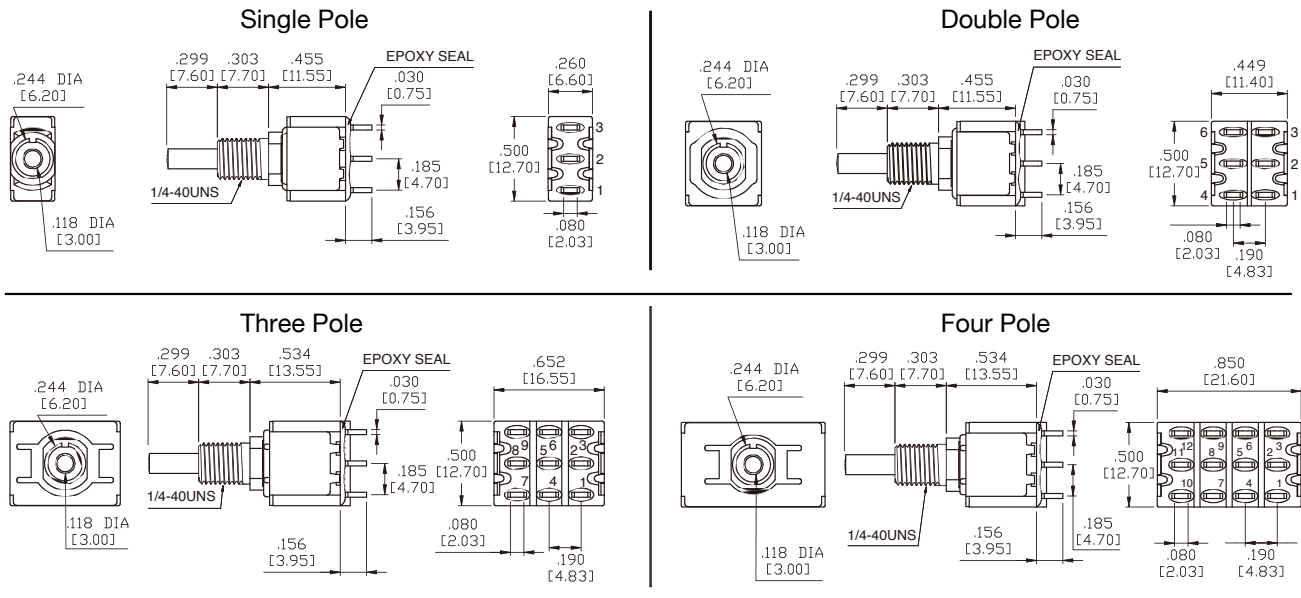


#### VS41, VS51



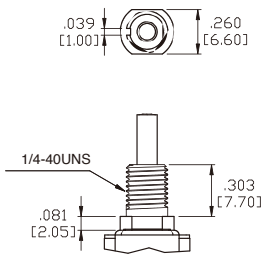
\* PC Mounting for VS21, VS31, VS41, VS51 refer to VS2, VS3, VS4, VS5 respectively.

## 3MA-Series Dimensional Specifications: in. [mm]



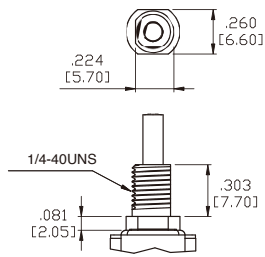
## 3MA-Series Dimensional Specifications: in. [mm]

### B10 Threaded Standard B20 Non-Threaded

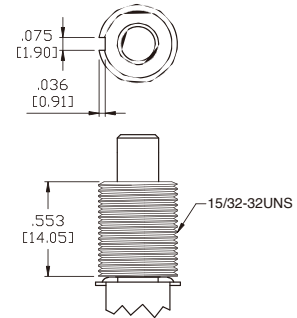


### Bushing Options

#### B21 Non-Threaded

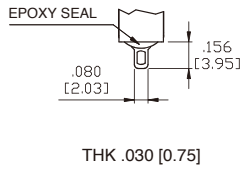


#### BD Threaded Standard

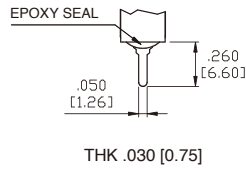


### Termination Options

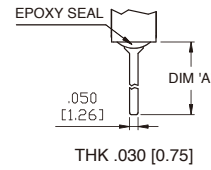
#### M1 Standard Solder Lug



#### M2 PC Thru-Hole

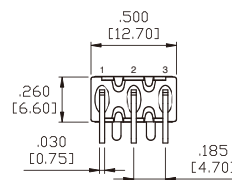
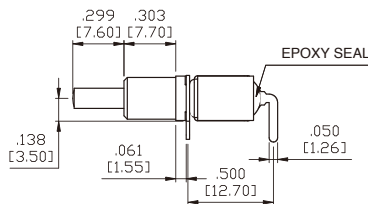
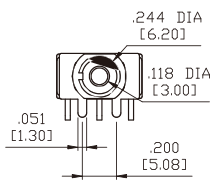


#### M5 Wire Wrap

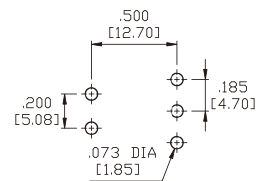


OPTION CODE	DIM. 'A'
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]
M5-4	1.062 [26.97]

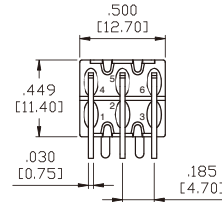
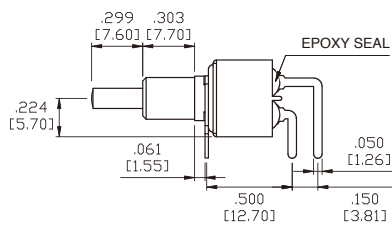
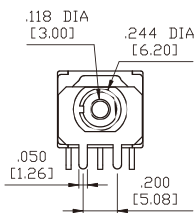
### M6 Single Pole



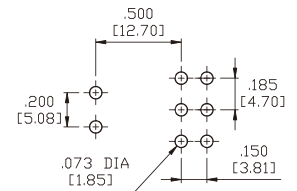
### P.C.MOUNTING



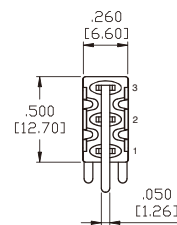
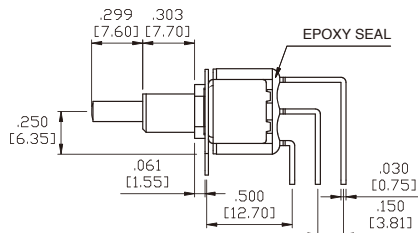
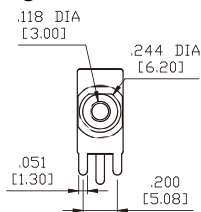
### M6 Double Pole



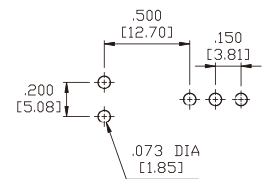
### P.C.MOUNTING



### M7 Single Pole



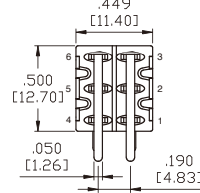
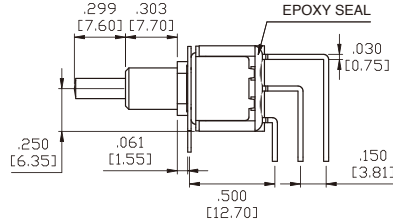
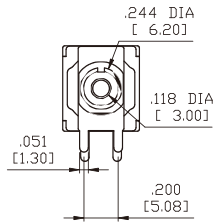
### P.C.MOUNTING



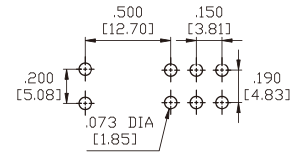
## 3MA-Series Dimensional Specifications: in. [mm]

### Termination Options

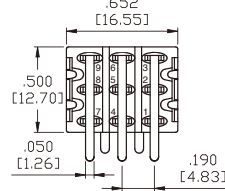
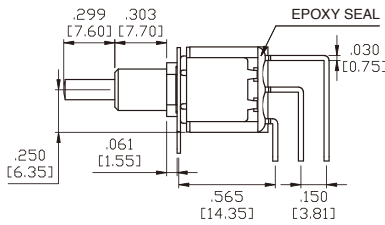
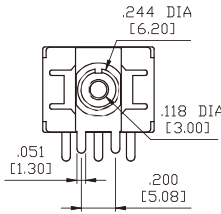
#### M7 Double Pole



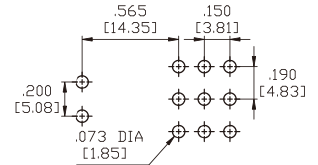
#### P.C.MOUNTING



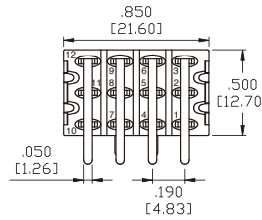
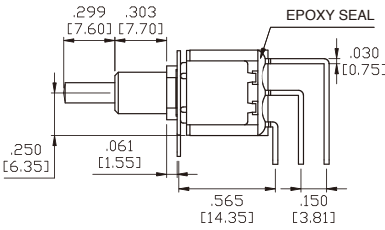
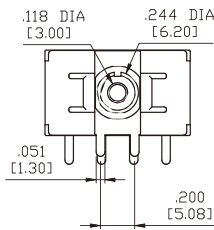
#### M7 Three Pole



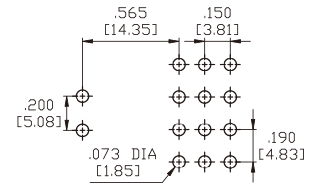
#### P.C.MOUNTING



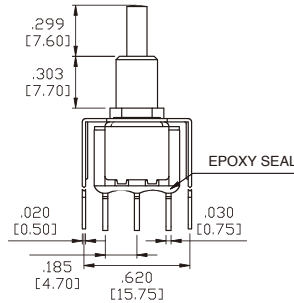
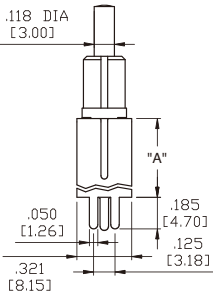
#### M7 Four Pole



#### P.C.MOUNTING

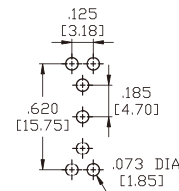


#### VS2-VS3 Single Pole

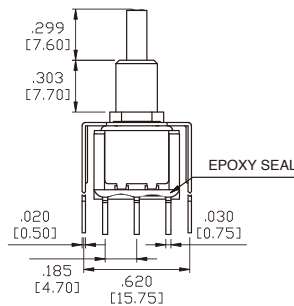
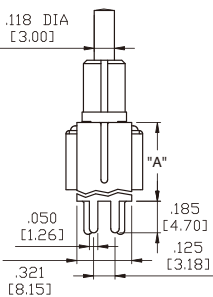


OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

#### P.C.MOUNTING

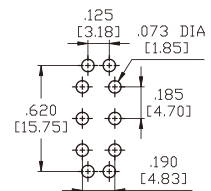


#### VS2-VS3 Double Pole



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

#### P.C.MOUNTING

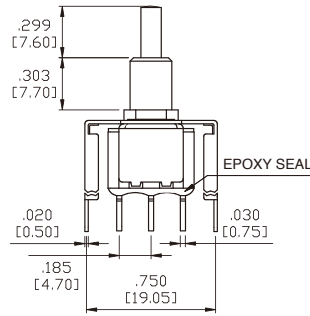
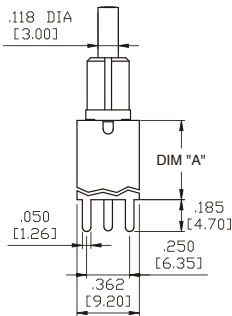




# 3MA-Series Dimensional Specifications: in. [mm]

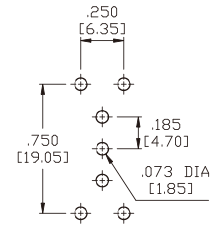
## Termination Options

### VS4-VS5 Single Pole

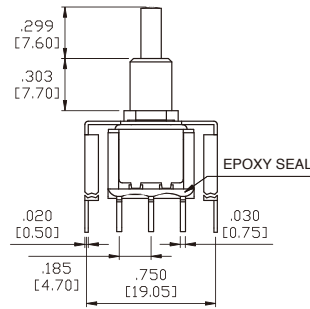
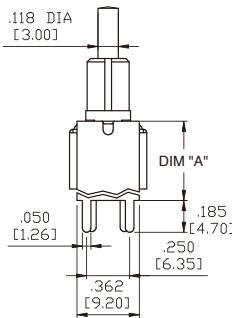


OPTION CODE	DIM.'A'
<b>VS4</b>	.461 [11.70]
<b>VS5</b>	.630 [16.00]

### P.C.MOUNTING

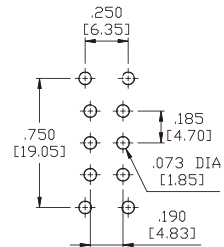


### VS4-VS5 Double Pole



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

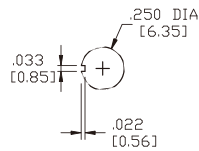
### P.C.MOUNTING



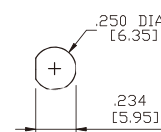
## Panel Mounting

### 1/4 INCH BUSHING

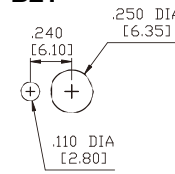
#### B10



#### B20

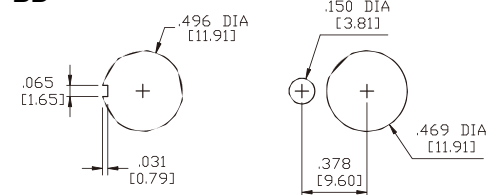


#### B21



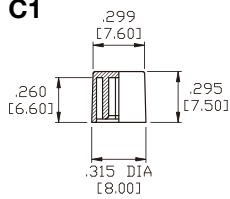
### 15/32 INCH BUSHING

#### BD

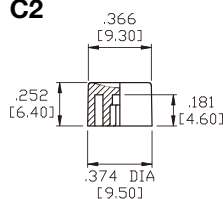


## Plunger Caps

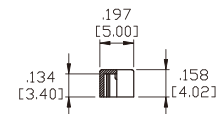
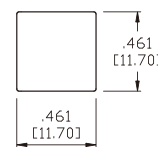
#### C1



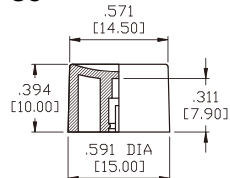
#### C2



#### C3

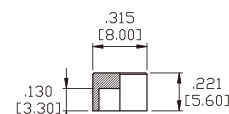


#### C5



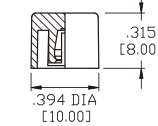
For PL plunger only

#### 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