



Carling Technologies®
/// NOW PART OF



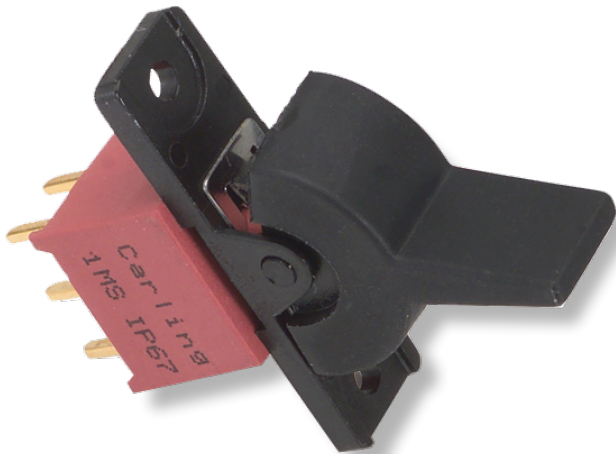
Littelfuse®

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

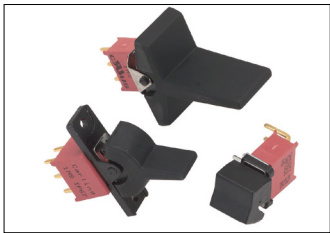
28

VDC

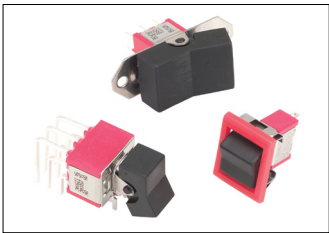
Typical Applications

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

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

Selection 1 2 3 4 5 6 7 8

1. SERIES

1MS 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

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

See dimensional specifications.

7. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
G silver ¹	gold over silver	5A 125VAC or 28VDC, 250VAC	us, IP67
K gold ^{2,5}	tin ⁴	0.4VA max 20V max (AC/DC)	IP67
P silver ^{1,6}	tin ⁴	5A 125VAC or 28VDC, 250VAC	us, IP67
R gold ²	gold ³	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 **1M1 - SP 1 - R8 / 2 - 2 M6 Q E**

Selection 1 2 3 4 5 6 7 8 9

1. SERIES

1M1 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)
6¹ ON ON ON
7¹ (ON) ON (ON)
8¹ ON ON (ON)
9² 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

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

See dimensional specifications.

8. CONTACTS / TERMINALS

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

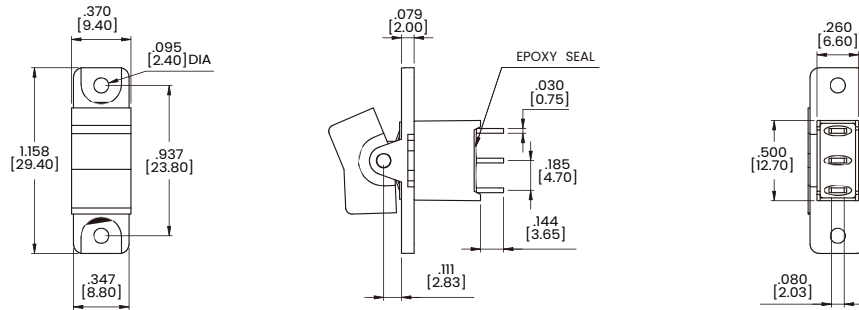
[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

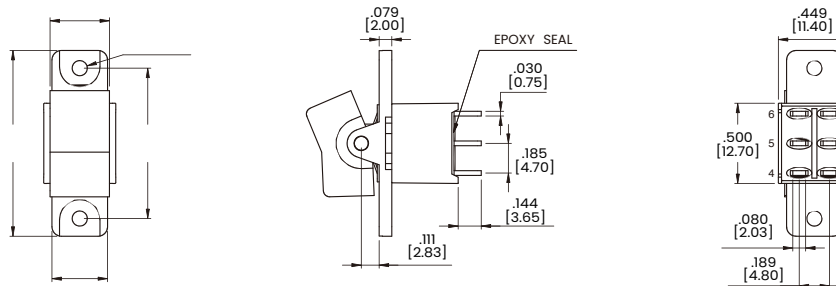
Dimensional Specs

inches [millimeters]

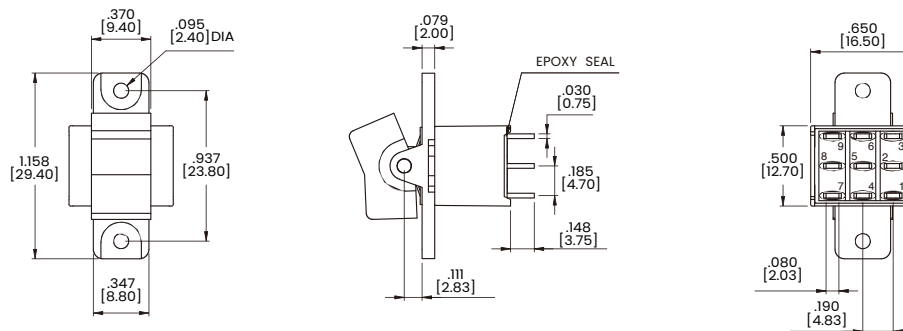
Single Pole



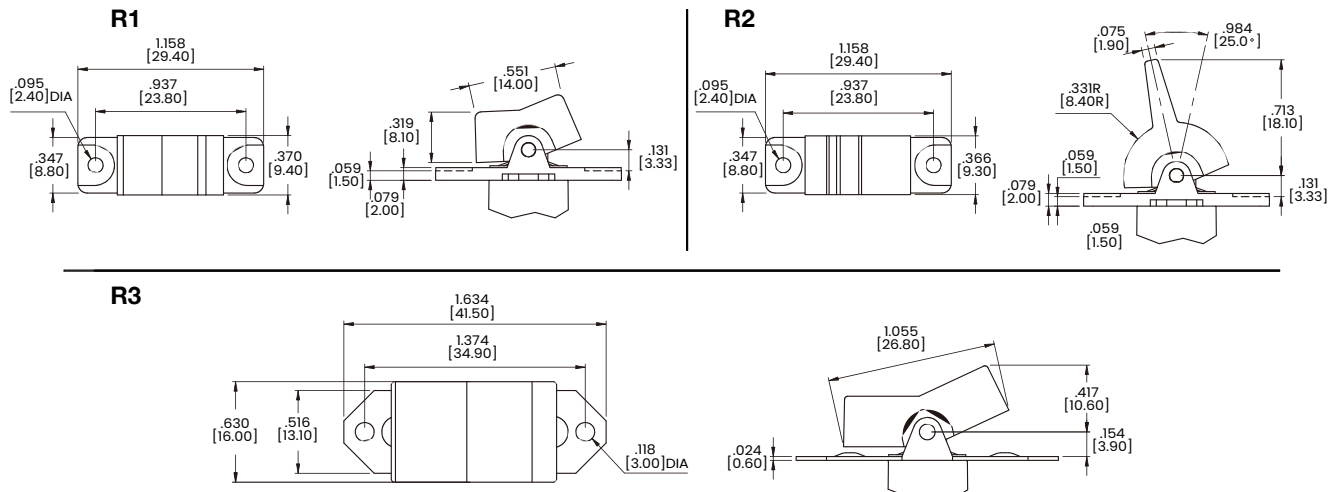
Double Pole



Three Pole



Actuator Options for Panel Rear Mount

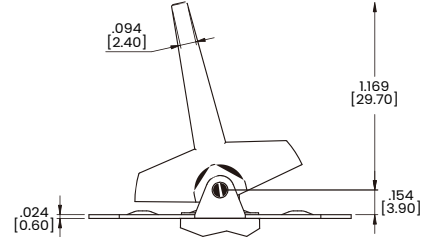
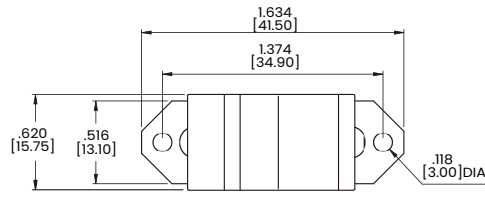


Dimensional Specs

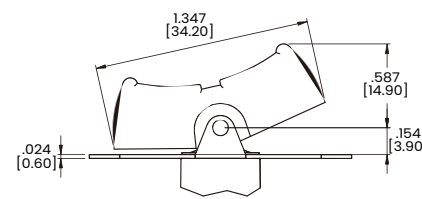
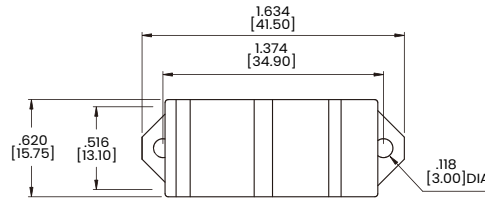
inches [millimeters]

Actuator Options for Panel Rear Mount

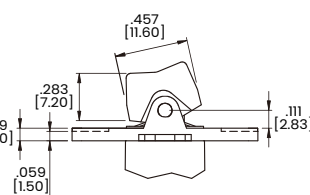
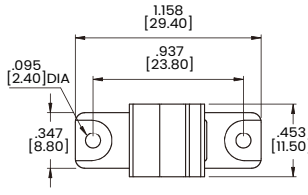
R4



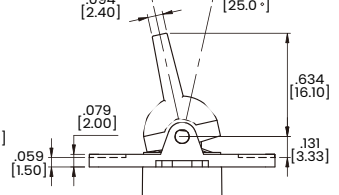
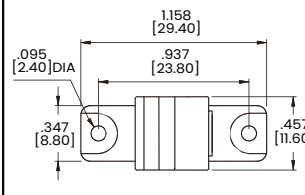
R5



R6

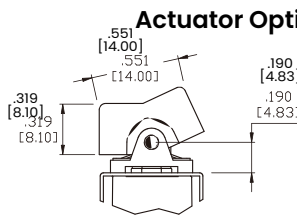
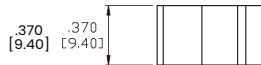


R7

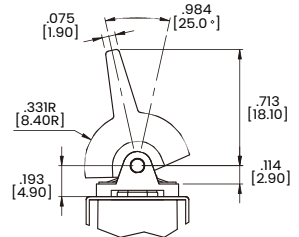


Actuator Options for PC Mount

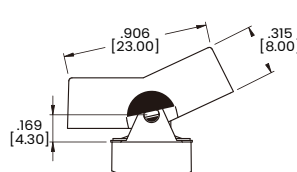
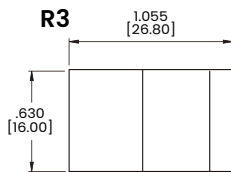
R1



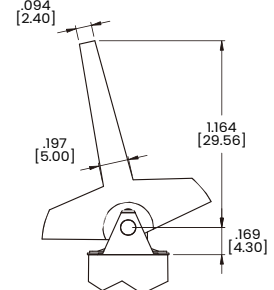
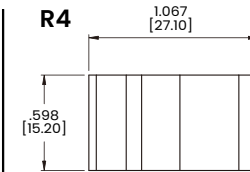
R2



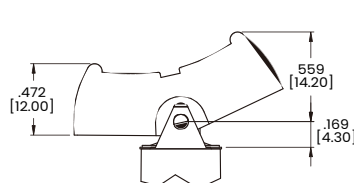
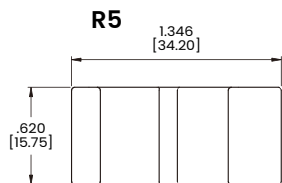
R3



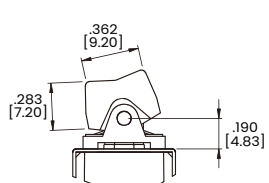
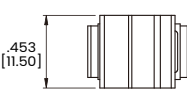
R4



R5



R6

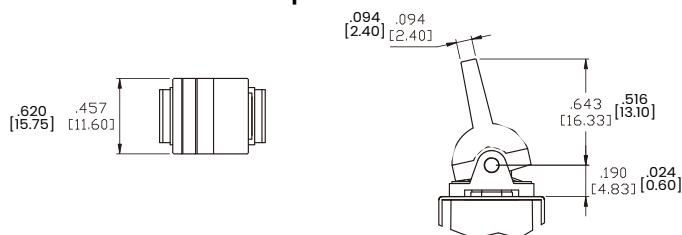


Dimensional Specs

inches [millimeters]

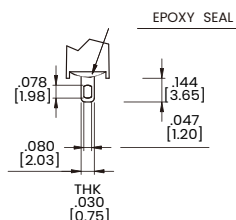
Actuator Options for PC Mount

R7

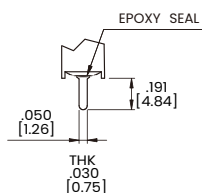


Termination Options

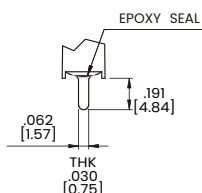
M1 Standard Solder Lug



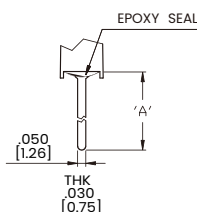
M2 PC Thru-Hole



M3 Quick Connect

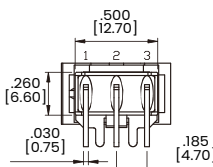
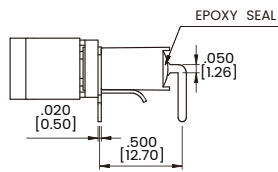
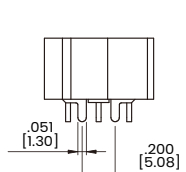


M5 Wire Wrap

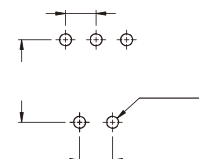


OPTION CODE	DIM.'A'
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M5-2	.924 [23.48]
M5-3	.386 [9.80]
M5-4	1.022 [25.97]

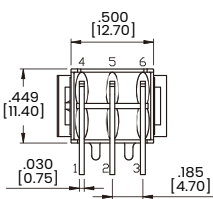
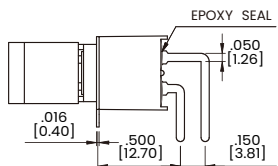
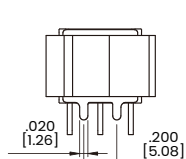
M6 Single Pole



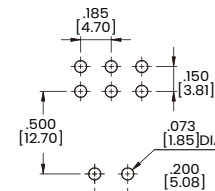
P.C.MOUNTING



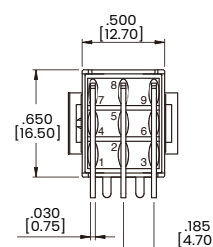
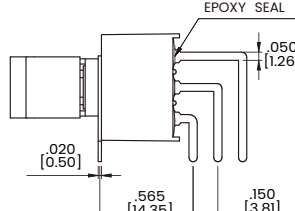
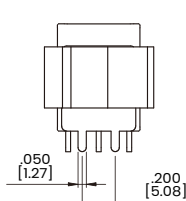
M6 Double Pole



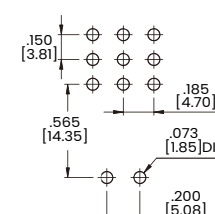
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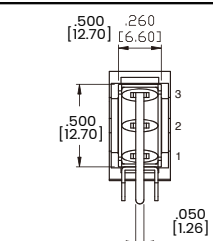
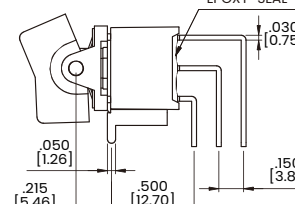
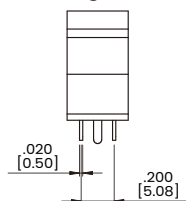
M6 Three Pole



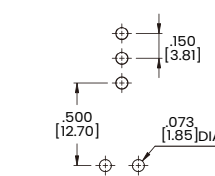
P.C.MOUNTING



M7 Single Pole



P.C.MOUNTING

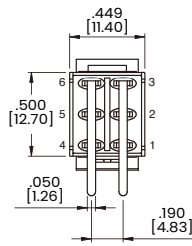
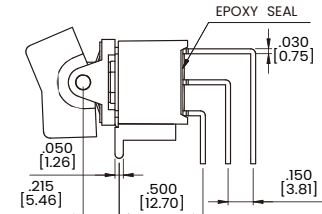
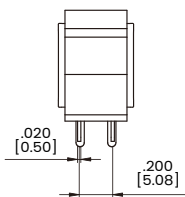


Dimensional Specs

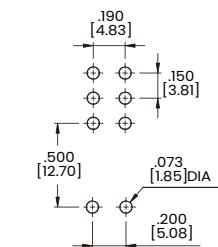
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Termination Options

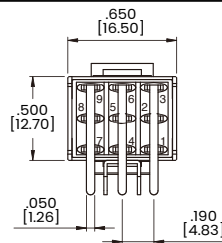
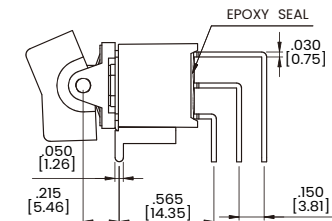
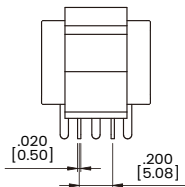
M7 Double Pole



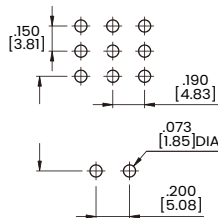
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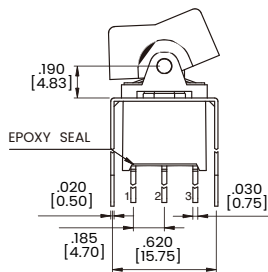
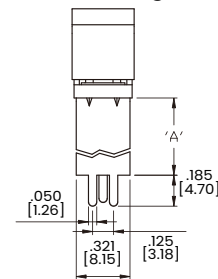
M7 Three Pole



P.C.MOUNTING

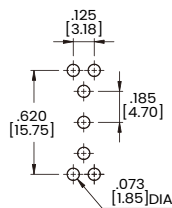


VS2-VS3 Single Pole

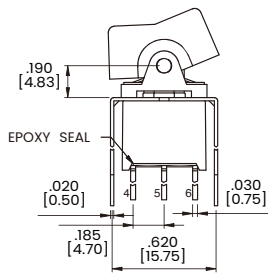
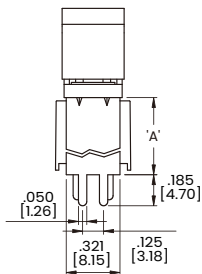


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VS3	.630 [16.00]

P.C.MOUNTING

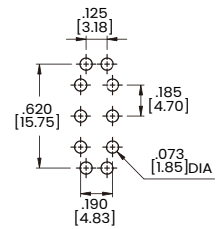


VS2-VS3 Double Pole

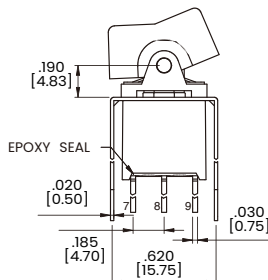
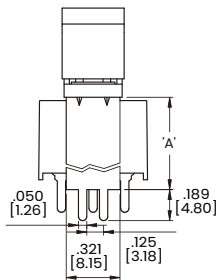


OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

P.C.MOUNTING

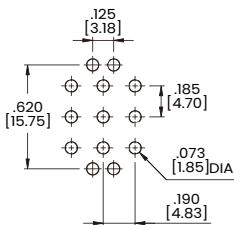


U2-VS3 Three Pole



OPTION CODE	DIM.'A'
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VS3	.630 [16.00]

P.C.MOUNTING

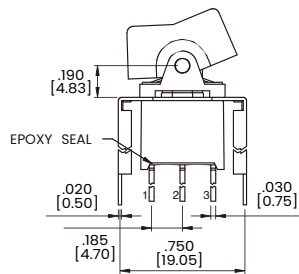
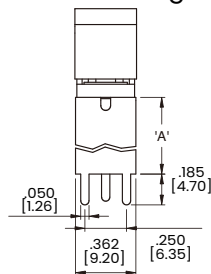


Dimensional Specs

inches [millimeters]

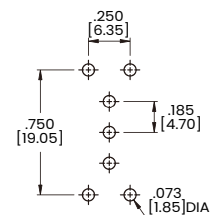
Termination Options

VS4-VS5 Single Pole

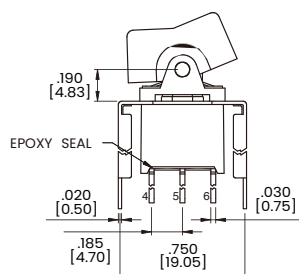
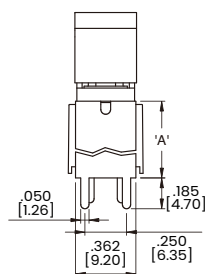


OPTION CODE	DIM. 'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

P.C.MOUNTING

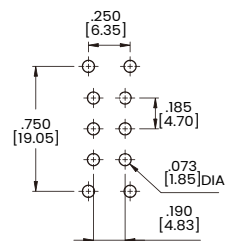


VS4-VS5 Double Pole

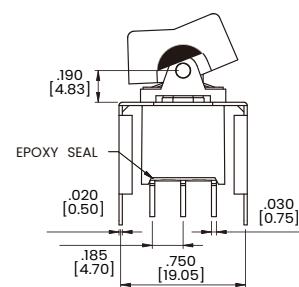
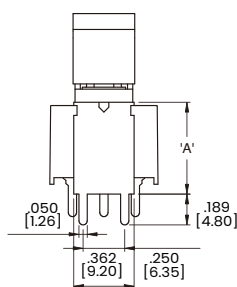


OPTION CODE	DIM. 'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

P.C.MOUNTING

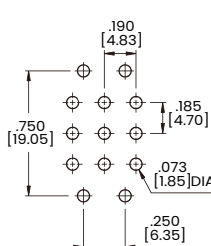


U4-VS5 Three Pole



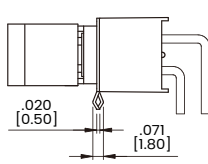
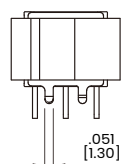
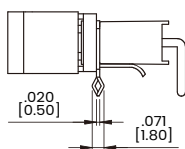
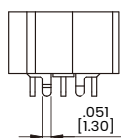
OPTION CODE	DIM. 'A'
U4	.551 [14.00]
VS5	.630 [16.00]

P.C.MOUNTING

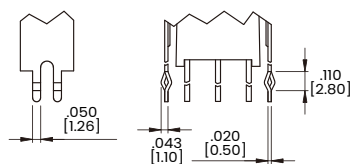


Snap-In Termination Options

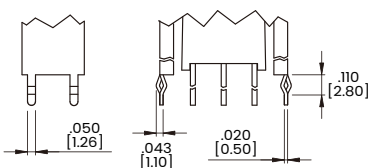
M61



VS21, VS31



VS41, VS51

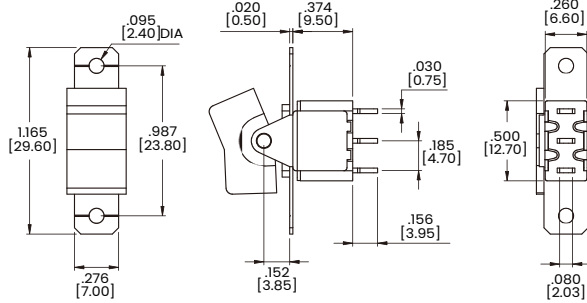


* PC Mounting for M61, M71, VS21, VS31, VS41, VS51 refer to M6, M7, VS2, VS3, VS4, VS5 respectively.

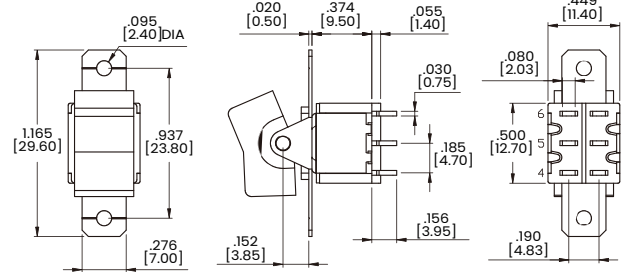
Dimensional Specs

inches [millimeters]

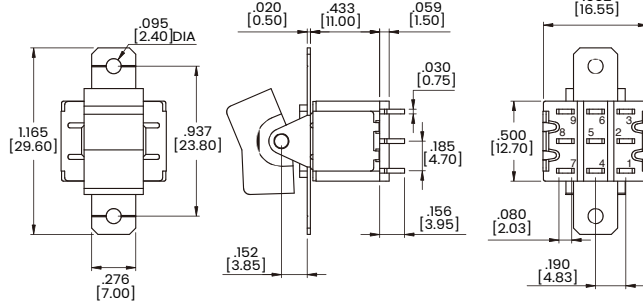
Single Pole



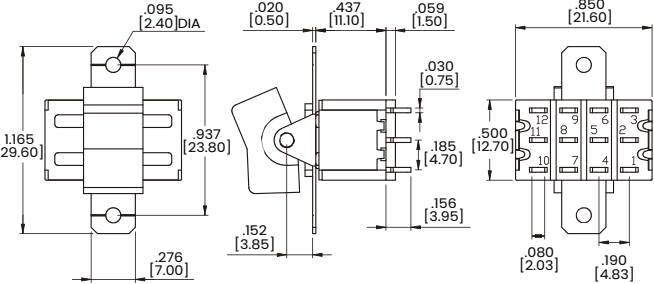
Double Pole



Three Pole

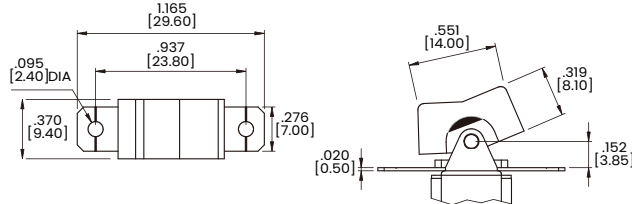


Four Pole

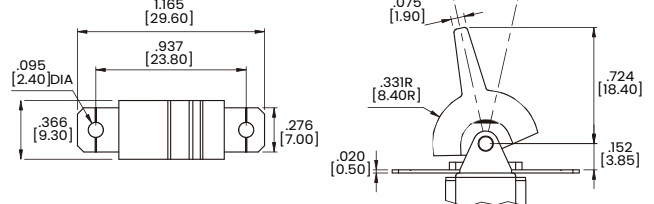


Actuator Options for Panel Rear Mount

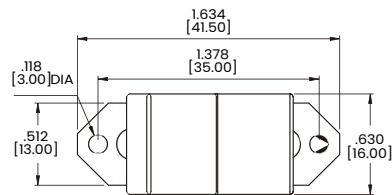
R1



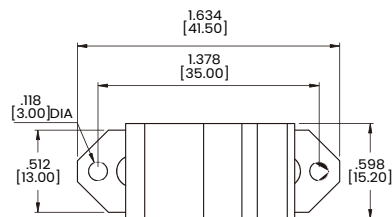
R2



R3



R4

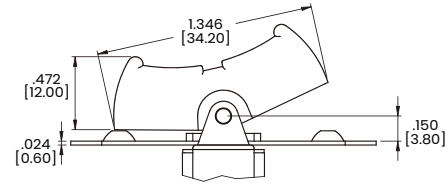
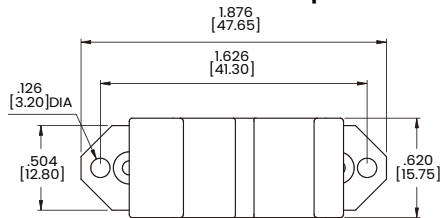


Dimensional Specs

inches [millimeters]

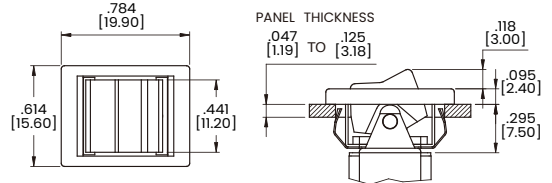
Actuator Options for Panel Rear Mount

R5

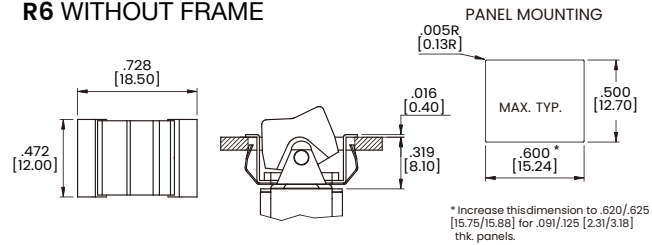


Actuator Options for Snap-In Mount

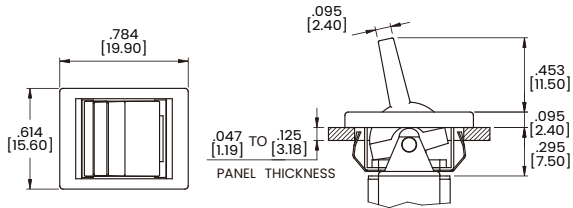
R6



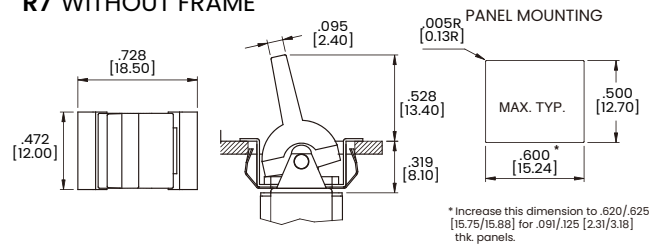
R6 WITHOUT FRAME



R7

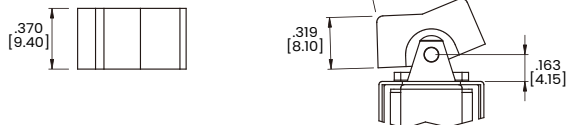


R7 WITHOUT FRAME

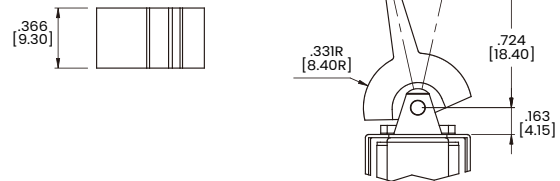


Actuator Options for PC Mount

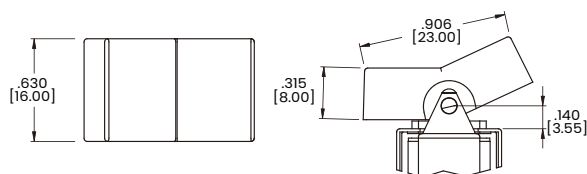
R1



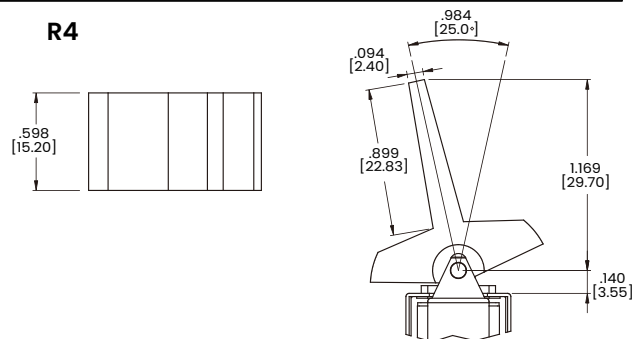
R2



R3



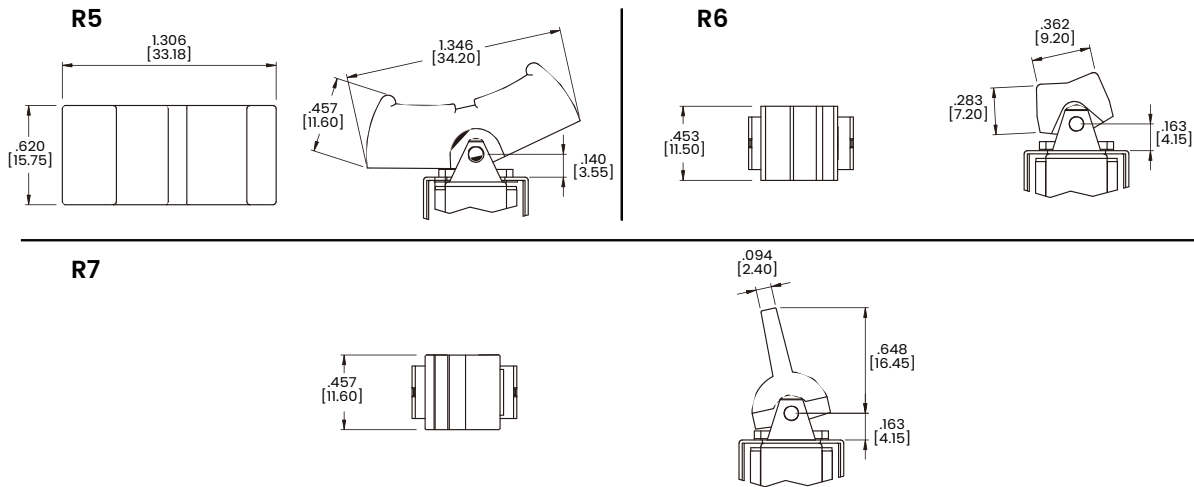
R4



Dimensional Specs

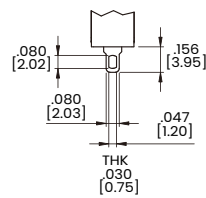
inches [millimeters]

Actuator Options for PC Mount

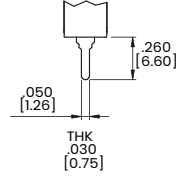


Termination Options

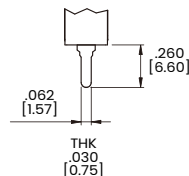
M1 Standard Solder Lug



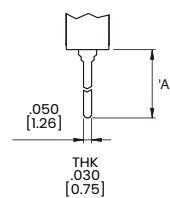
M2 PC Thru-Hole



M3 Quick Connect

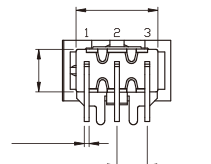
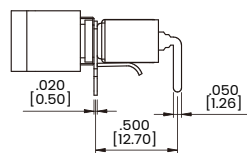
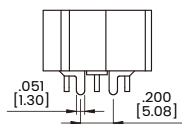


M5 Wire Wrap

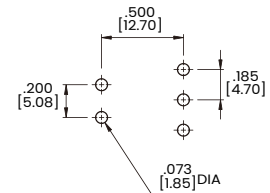


OPTION CODE	DIM: 'A'
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]
M5-4	1.062 [26.97]

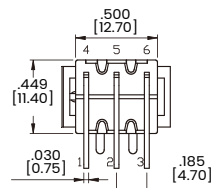
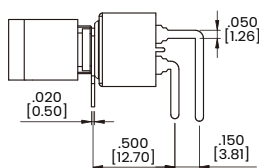
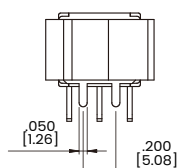
M6 Single Pole



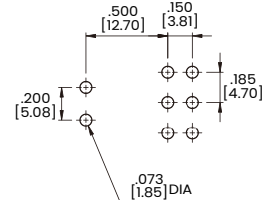
P.C.MOUNTING



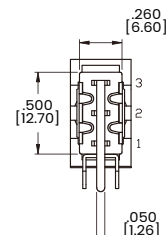
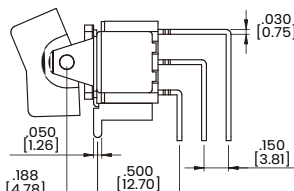
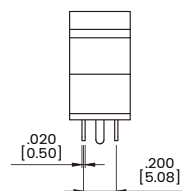
M6 Double Pole



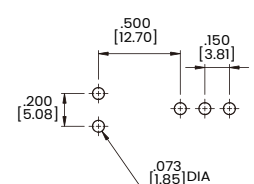
P.C.MOUNTING



M7 Single Pole



P.C.MOUNTING

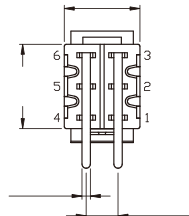
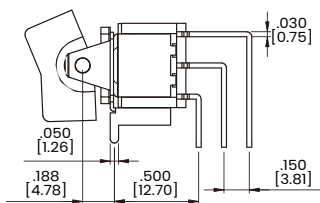
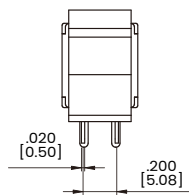


Dimensional Specs

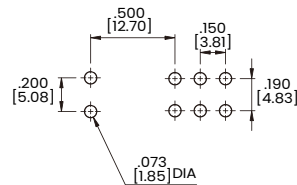
inches [millimeters]

Termination Options

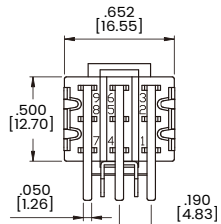
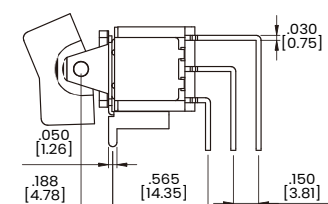
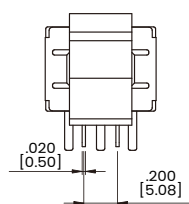
M7 Double Pole



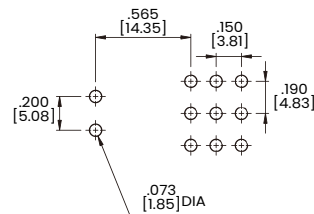
P.C.MOUNTING



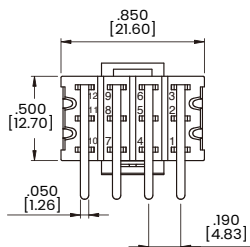
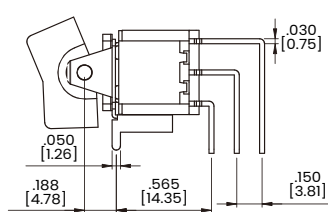
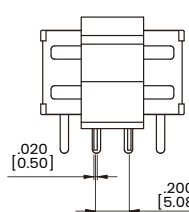
M7 Three Pole



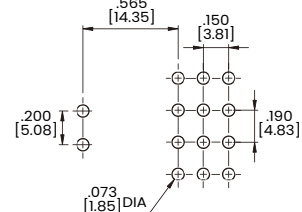
P.C.MOUNTING



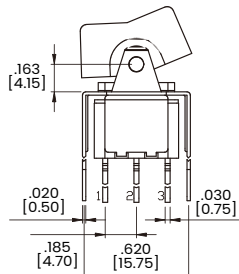
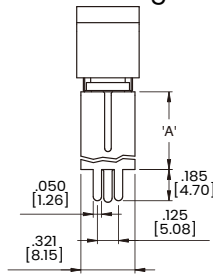
M7 Four Pole



P.C.MOUNTING

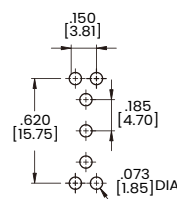


VS2-VS3 Single Pole

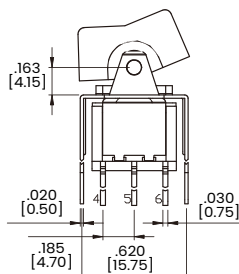
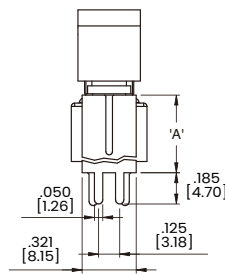


OPTION CODE	DIM. 'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

P.C.MOUNTING

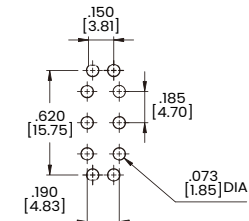


VS2-VS3 Double Pole



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

P.C.MOUNTING

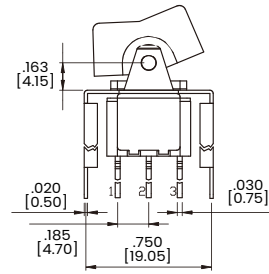
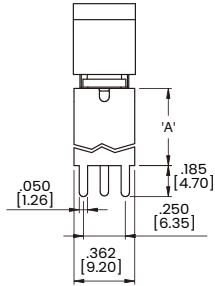


Dimensional Specs

inches [millimeters]

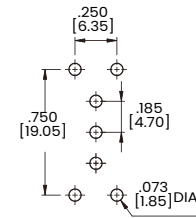
Termination Options

VS4-VS5 Single Pole

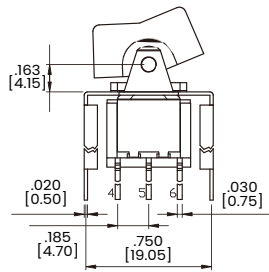
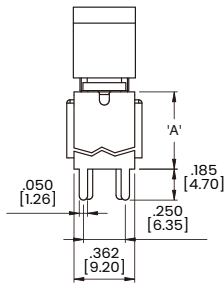


OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

P.C.MOUNTING

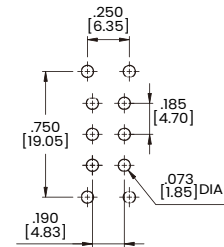


VS4-VS5 Double Pole

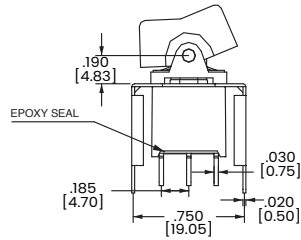
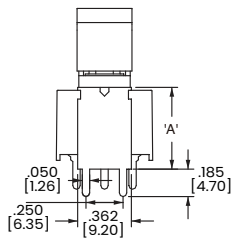


OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

P.C.MOUNTING

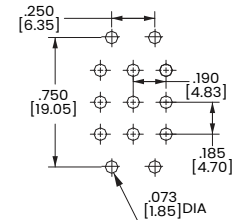


U4-VS5 Three Pole



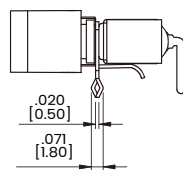
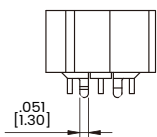
OPTION CODE	DIM.'A'
U4	.551 [14.00]
VS5	.630 [16.00]

P.C.MOUNTING

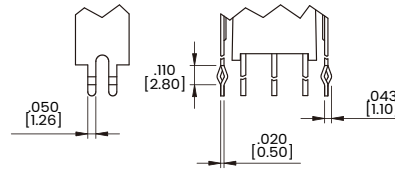


Snap-In Termination Options

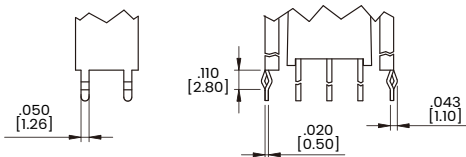
M61



VS21, VS31



VS41, VS51



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

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