Carling Technologies®
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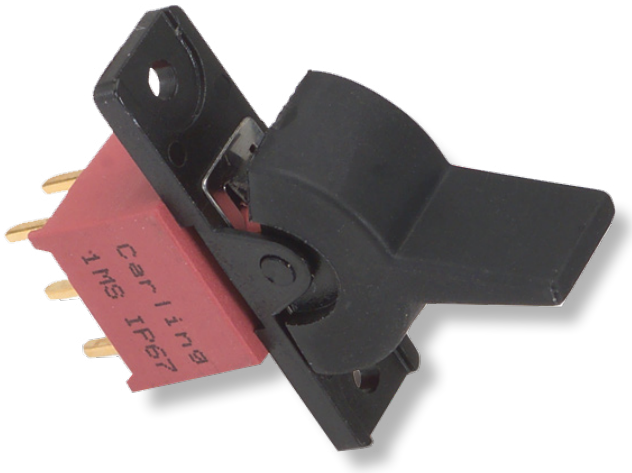
Littelfuse®

1M-Series

Miniature Rockers & Paddles

PRODUCT WEBPAGE

request sample, configure part



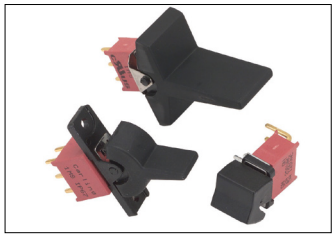
The 1M family of miniature rocker & paddle switches is composed of two switch series; the 1M1-Series miniature rocker and paddle switch, and the 1MS-Series sealed miniature rocker and paddle switch. Both products feature PC mounting and offer a variety of ratings, circuits, contact materials, terminal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

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

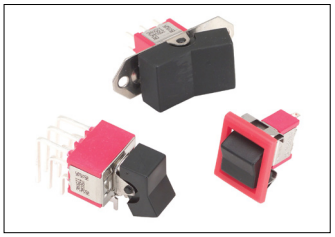
Typical Applications

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

Tech Specs



1MS-Series
Sealed
Miniature Rocker
& Rocker Switch



1M1-Series
Miniature Rocker
& Rocker Switch

Electrical

Contact Rating	refer to ordering scheme
Electrical Life	1MS-Series: 30,000 make & break cycles @ full load 1M1-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	1MS-Series: IP67
Solder Heat Resistance	MIL-STD-202, Method 210
Actuator Travel	25°

Material

Case	1MS-Series: Glass filled nylon 6/6,flame retardant, heat stabilized (UL 94V-0) 1M1-Series: Dially phthalate (DAP) (UL 94V-0)
Rocker/Paddle	1MS-Series: Nylon, black standard,internal o-ring sealed 1M1-Series: Nylon (UL 94V-0)
Bushing	1MS-Series: Glass filled nylon 6/6,flame retardant, heat stabilized (UL 94V-0) 1M1-Series: Brass, nickel plated
Housing	1MS-Series: Spring Steel 1M1-Series: Stainless Steel
Actuator Pivot & Mounting Bracket	1MS-Series: Nylon (UL 94V-0) 1M1-Series: Stainless Steel
Actuator Pivot Retainer	1MS-Series: Stainless Steel
Switch Support	Brass, tin plated
Terminal Seal	Epoxy

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

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, 5-6, 8-9	2 Connected Terminals	3 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
R2 Standard Paddle
R3 Medium Rocker
R4 Large Paddle
R5 Large Rocker
R6 Small Rocker
R7 Medium Paddle

5. ACTUATOR COLOR

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

6. TERMINATION

M1 Solder Lug
M2 PCB
M3 Quick Connect
M51 Wire Wrap
M52 Wire Wrap
M53 Wire Wrap
M54 Wire Wrap
M6 PC Mount, 90˚ horizontal
M7 PC Mount, 90˚ vertical
VS2 PC Mount, U bracket
VS3 PC Mount, U bracket
VS4 PC Mount, U bracket
VS5 PC Mount, U bracket
VS21 Snap-In, U bracket
VS31 Snap-In, U bracket
VS41 Snap-In, U bracket
VS51 Snap-In, U bracket
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 2A	5A 125VAC or 28VDC, 250VAC	cULus, IP67
K gold [2,5]	tin [4]	0.4VA max 20V max (AC/DC)	IP67
P silver [1,6]	tin [4] 2A	5A 125VAC or 28VDC, 250VAC	cULus, 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, 5-6, 8-9, 11-12	2 Connected Terminals	3 2-1, 5-4, 8-7, 11-10
1	ON	NONE	ON
2	ON	NONE	(ON)
3	ON	OFF	ON
4	(ON)	OFF	(ON)
5	ON	OFF	(ON)
6 [1]	ON	ON	ON
7 [1]	(ON)	ON	(ON)
8 [1]	ON	ON	(ON)
9 [2]	NONE	ON	(ON)

4. ACTUATOR STYLE

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

5. ACTUATOR COLOR / 6 FRAME COLOR

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

7. TERMINATION

M1 Solder Lug
M2 PCB
M3 Quick Connect
M51 Wire Wrap
M52 Wire Wrap
M53 Wire Wrap
M54 Wire Wrap
M6 PC Mount, 90˚ horizontal
M7 PC Mount, 90˚ vertical
VS2 PC Mount, U bracket
VS3 PC Mount, U bracket
VS4 PC Mount, U bracket
VS5 PC Mount, U bracket
M61 Snap-In, U bracket, 90° horizontal
M71 Snap-In, U bracket, 90° vertical
VS21 Snap-In, U bracket
VS31 Snap-In, U bracket
VS41 Snap-In, U bracket
VS51 Snap-In, 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 2A 250VAC	5A 125VAC or 28VDC,	UL, CSA
K gold [4,7]	tin [6]	0.4VA max 20V max (AC/DC)	N/A
P silver [3,8]	tin [6] 2A 250VAC	5A 125VAC or 28VDC,	UL, CSA
Q silver [3]	silver [3] 2A 250VAC	5A 125VAC or 28VDC,	UL, CSA
R gold [4]	gold [5]	0.4VA max 20V max (AC/DC)	N/A

9. EPOXY SEAL

E Epoxy Seal **0** without Epoxy Seal

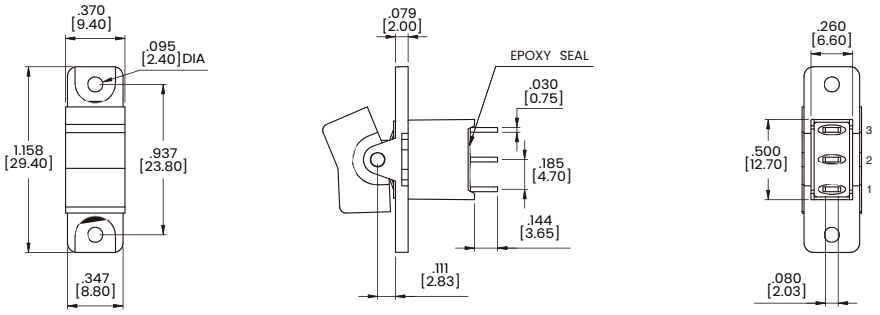
Notes:
Tin option not available with M1 and M3 terminals.
1 Double-Pole and Four-Pole only. Center position connects 2-3, 5-4, 8-9, 11-10
2 Double-Pole only
3 Movable contact and terminal platings: silver over copper alloy
4 Movable contact platings: gold over nickel over copper alloy
5 Terminal platings: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

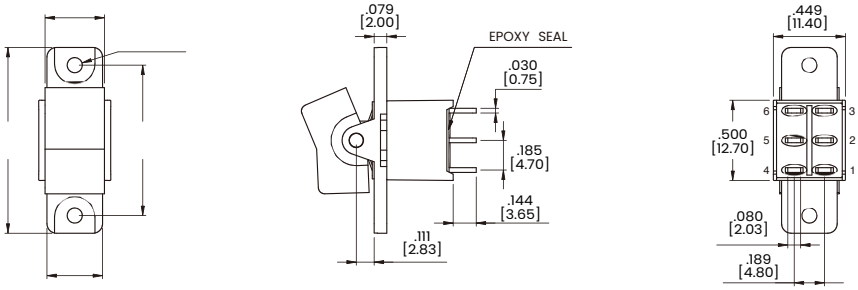
Dimensional Specs

inches [millimeters]

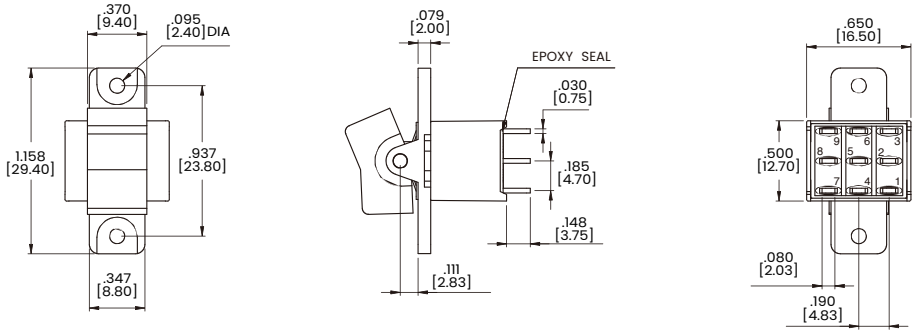
Single Pole



Double Pole

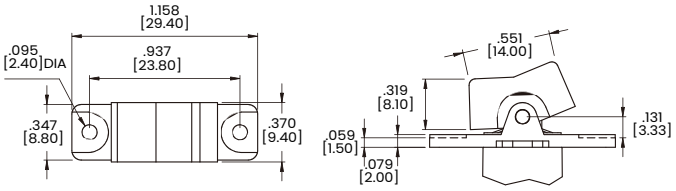


Three Pole

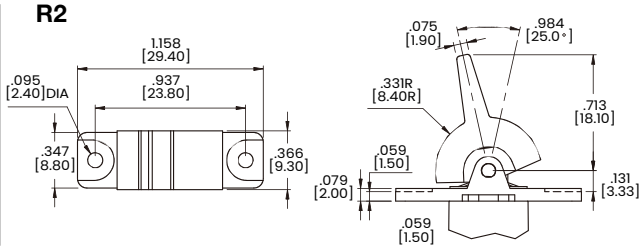


Actuator Options for Panel Rear Mount

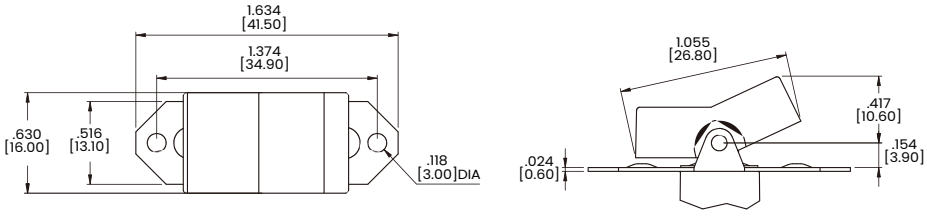
R1



R2



R3

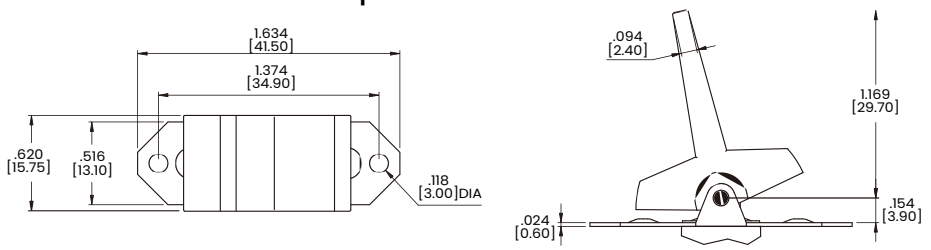


Dimensional Specs

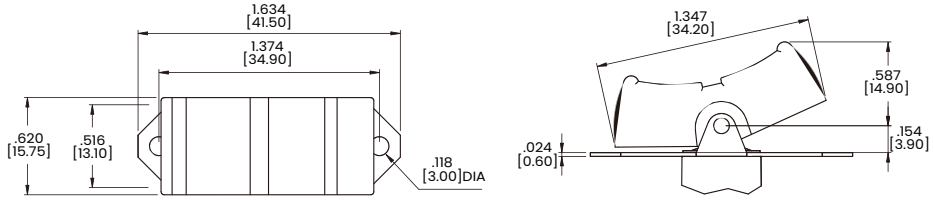
inches [millimeters]

Actuator Options for Panel Rear Mount

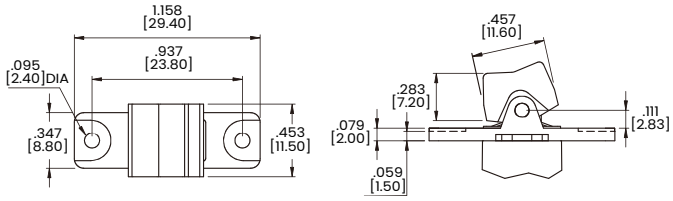
R4



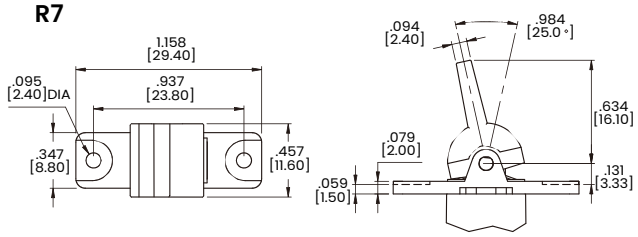
R5



R6

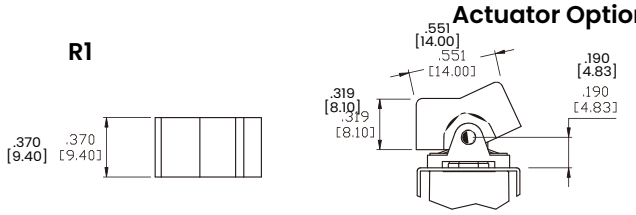


R7

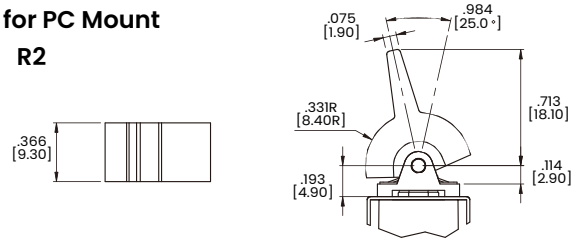


Actuator Options for PC Mount

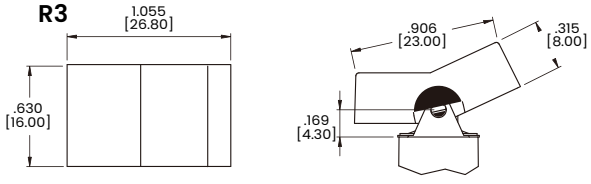
R1



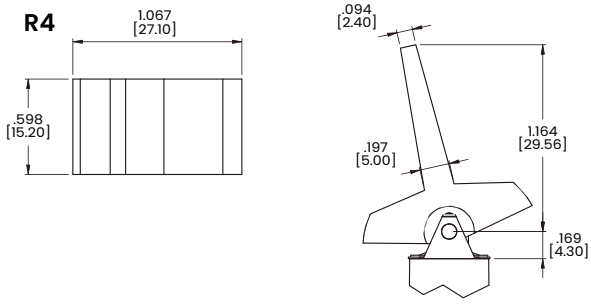
R2



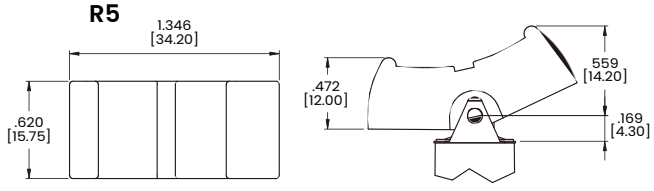
R3



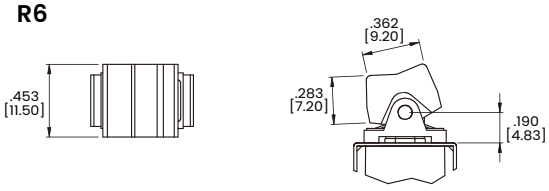
R4



R5



R6

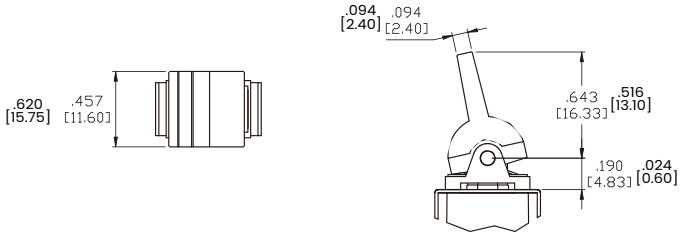


Dimensional Specs

inches [millimeters]

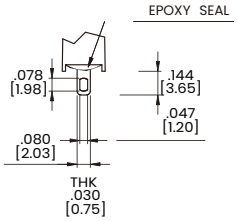
Actuator Options for PC Mount

R7

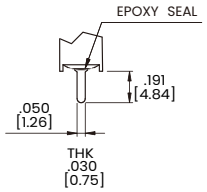


Termination Options

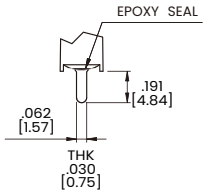
M1 Standard Solder Lug



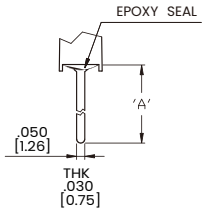
M2 PC Thru-Hole



M3 Quick Connect

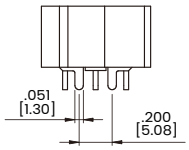


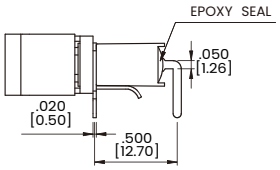
M5 Wire Wrap

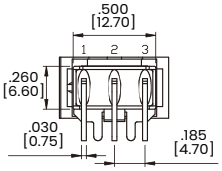


OPTION CODE	DIM.'A'
M5-1	.711 [18.05]
M5-2	.924 [23.48]
M5-3	.386 [9.80]
M5-4	1.022 [25.97]

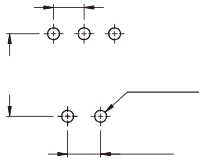
M6 Single Pole



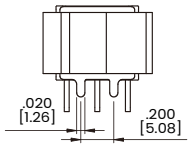


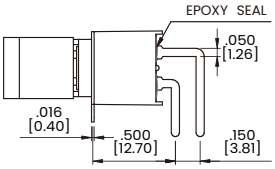


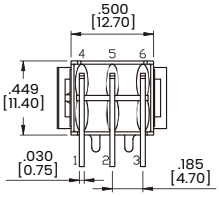
P.C.MOUNTING



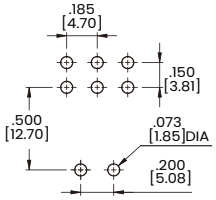
M6 Double Pole



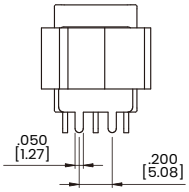


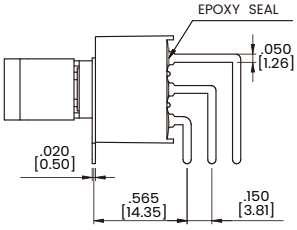


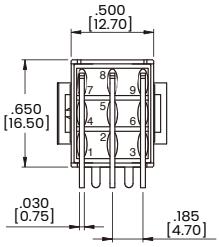
P.C.MOUNTING



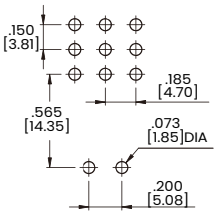
M6 Three Pole



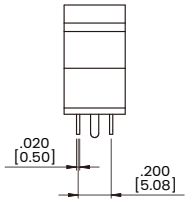


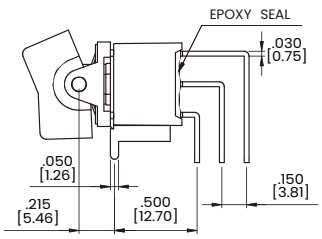


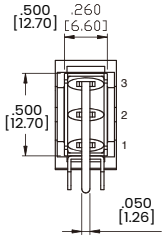
P.C.MOUNTING



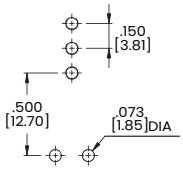
M7 Single Pole







P.C.MOUNTING

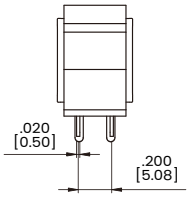


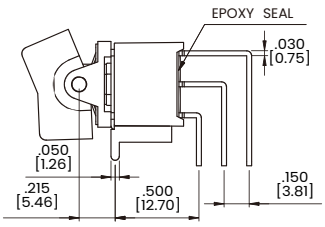
Dimensional Specs

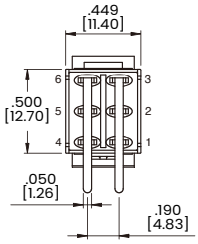
inches [millimeters]

Termination Options

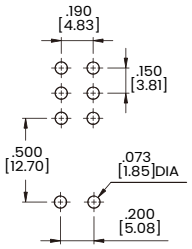
M7 Double Pole



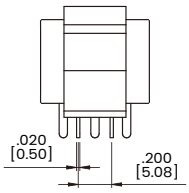


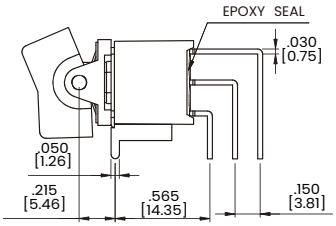


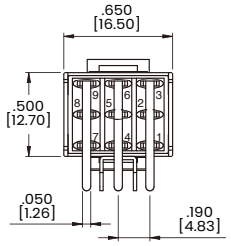
P.C.MOUNTING



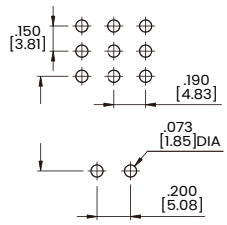
M7 Three Pole



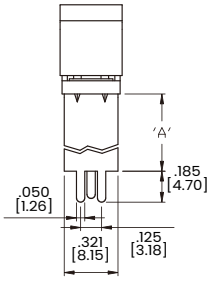


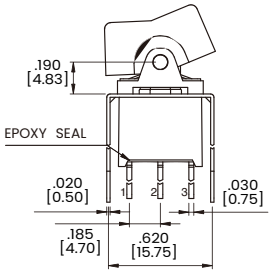


P.C.MOUNTING



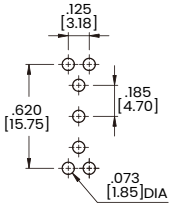
VS2-VS3 Single Pole



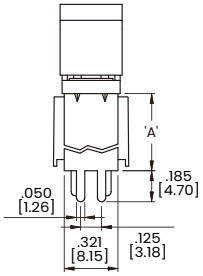


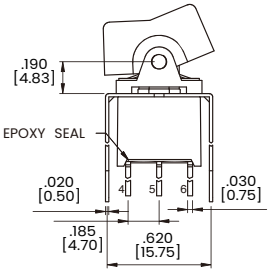
OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

P.C.MOUNTING



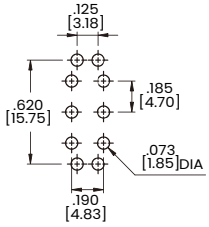
VS2-VS3 Double Pole



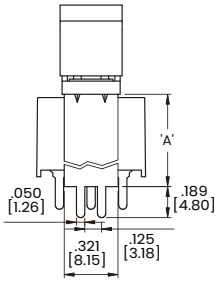


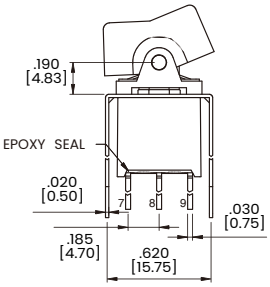
OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

P.C.MOUNTING



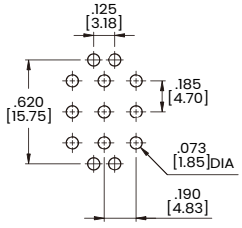
U2-VS3 Three Pole





OPTION CODE	DIM.'A'
U2	.551 [14.00]
VS3	.630 [16.00]

P.C.MOUNTING

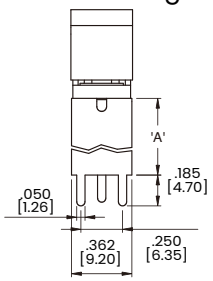


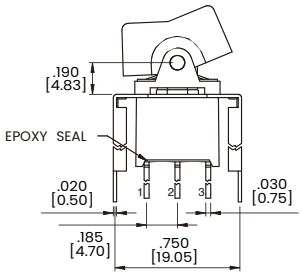
Dimensional Specs

inches [millimeters]

Termination Options

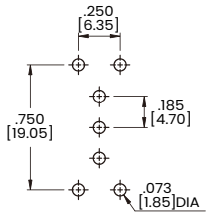
VS4-VS5 Single Pole



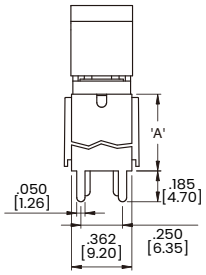


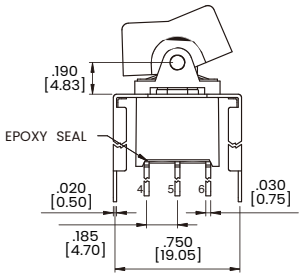
OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

P.C.MOUNTING



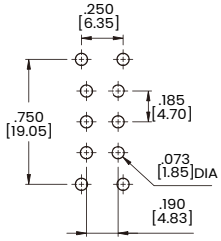
VS4-VS5 Double Pole



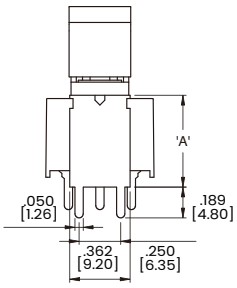


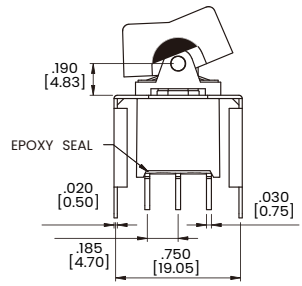
OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

P.C.MOUNTING



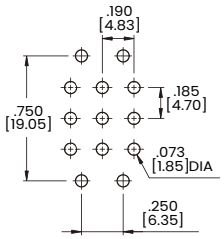
U4-VS5 Three Pole





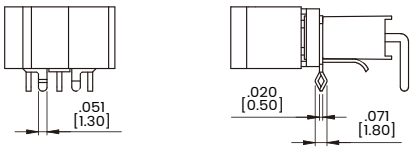
OPTION CODE	DIM.'A'
U4	.551 [14.00]
VS5	.630 [16.00]

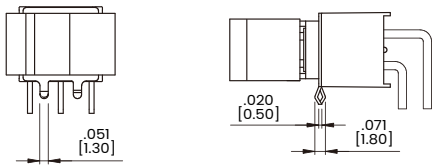
P.C.MOUNTING



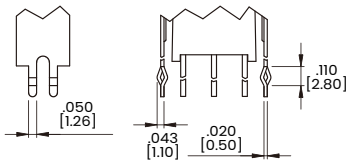
Snap-In Termination Options

M61

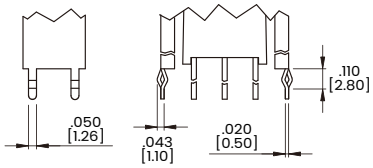




VS21, VS31



VS41, VS51

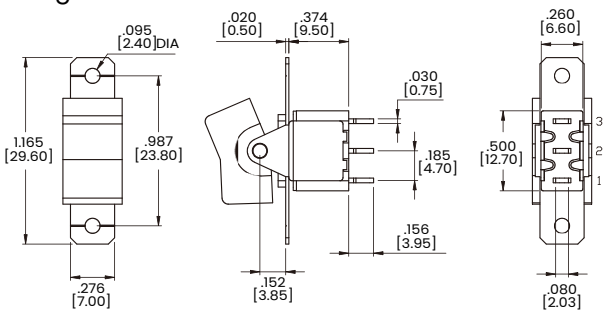


* PC Mounting for M61, M71, VS21, VS31, VS41, VS51 refer to M6, M7, VS2, VS3, VS4, VS5 respectively.

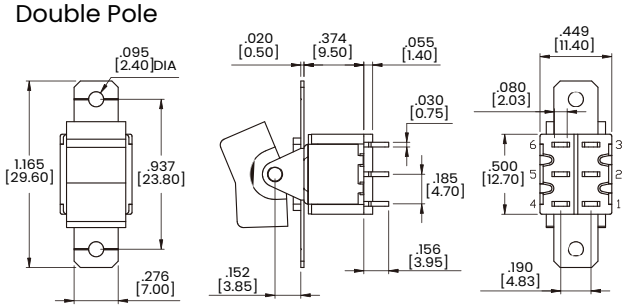
Dimensional Specs

inches [millimeters]

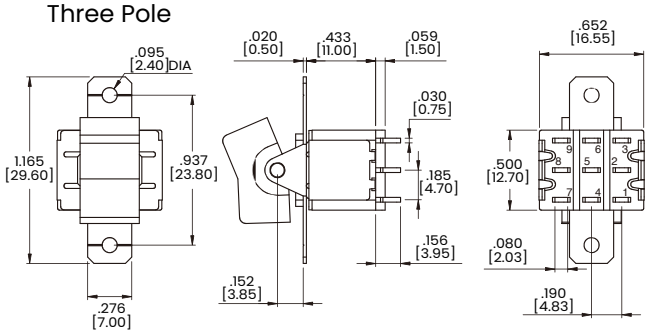
Single Pole



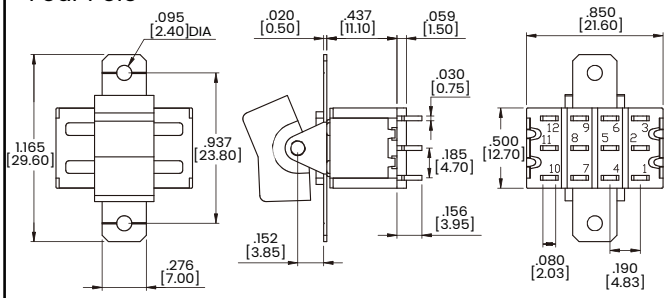
Double Pole



Three Pole

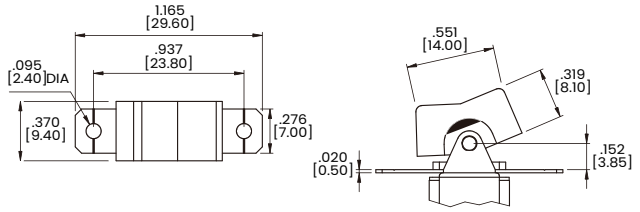


Four Pole

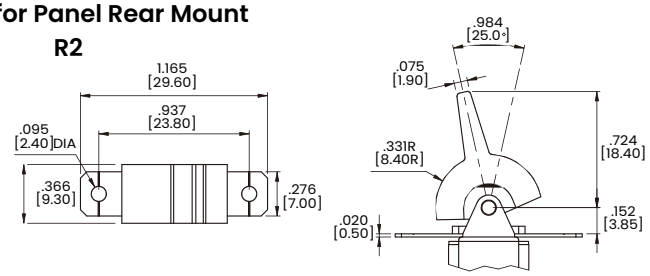


Actuator Options for Panel Rear Mount

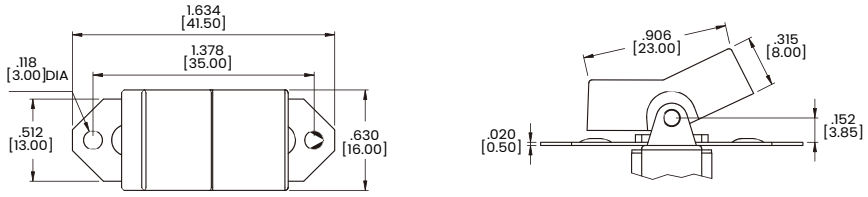
R1



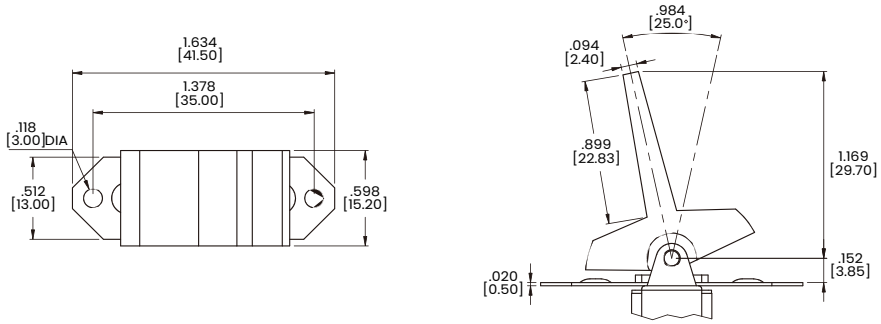
R2



R3



R4

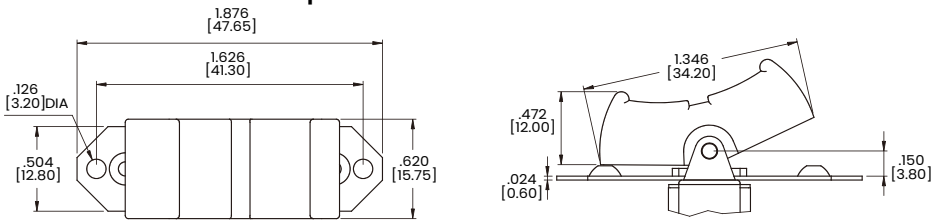


Dimensional Specs

inches [millimeters]

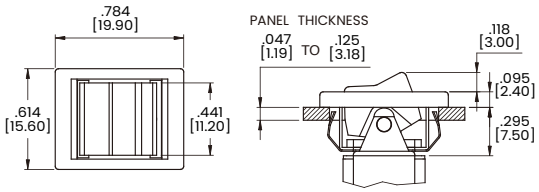
Actuator Options for Panel Rear Mount

R5

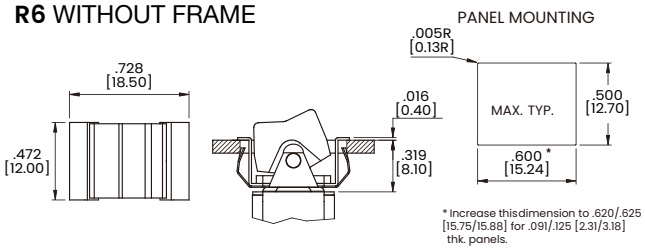


Actuator Options for Snap-In Mount

R6

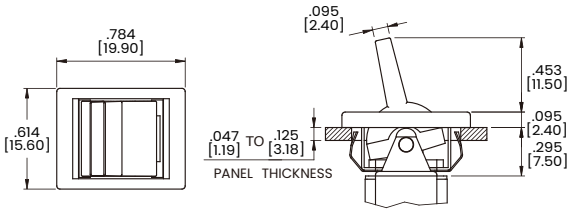


R6 WITHOUT FRAME

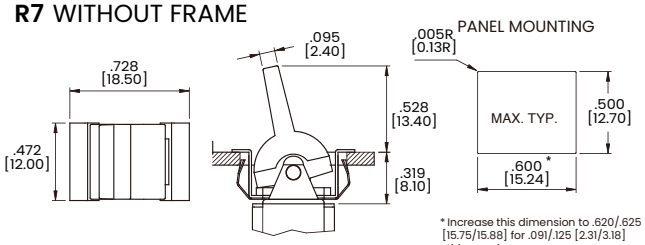


* Increase this dimension to .620/.625 [15.75/15.88] for .091/.125 [2.31/3.18] thk. panels.

R7



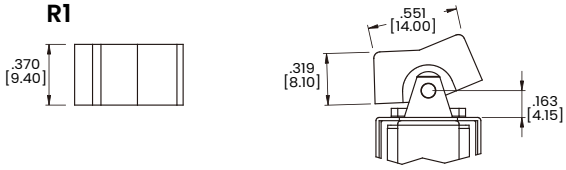
R7 WITHOUT FRAME



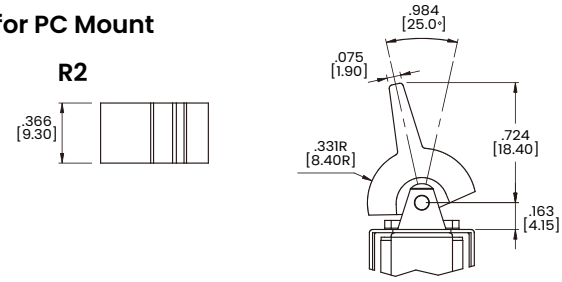
* Increase this dimension to .620/.625 [15.75/15.88] for .091/.125 [2.31/3.18] thk. panels.

Actuator Options for PC Mount

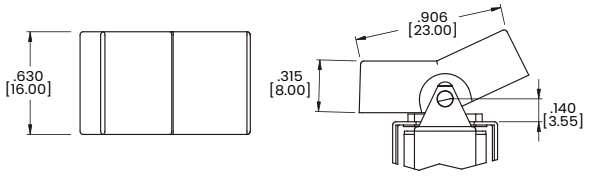
R1



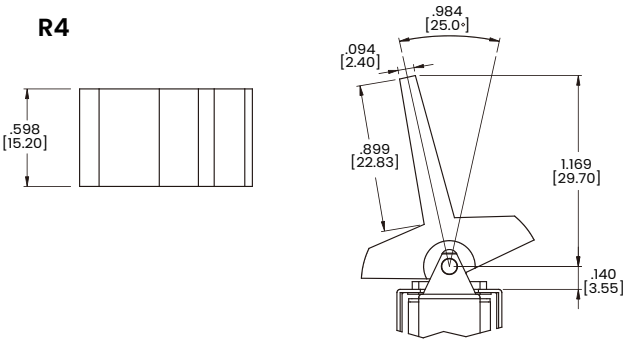
R2



R3



R4

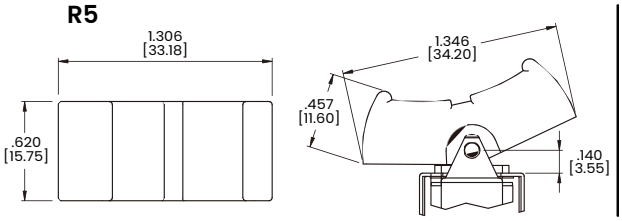


Dimensional Specs

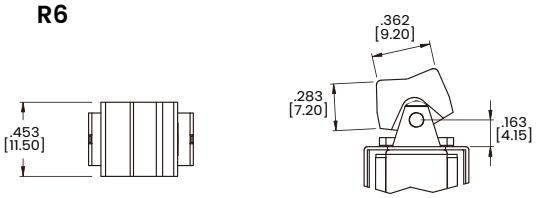
inches [millimeters]

Actuator Options for PC Mount

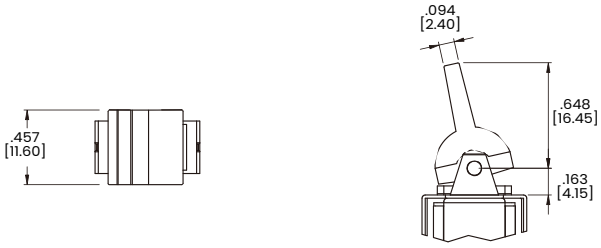
R5



R6

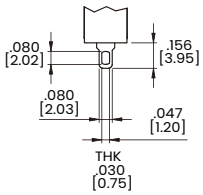


R7

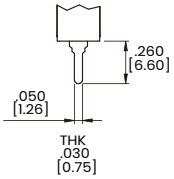


Termination Options

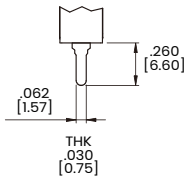
M1 Standard Solder Lug



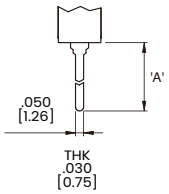
M2 PC Thru-Hole



M3 Quick Connect

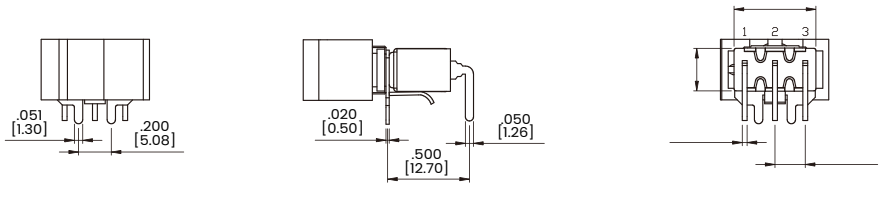


M5 Wire Wrap

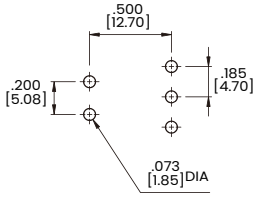


OPTION CODE	DIM.'A'
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]
M5-4	1.062 [26.97]

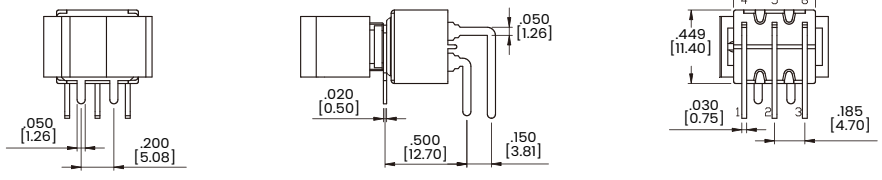
M6 Single Pole



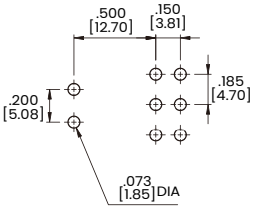
P.C.MOUNTING



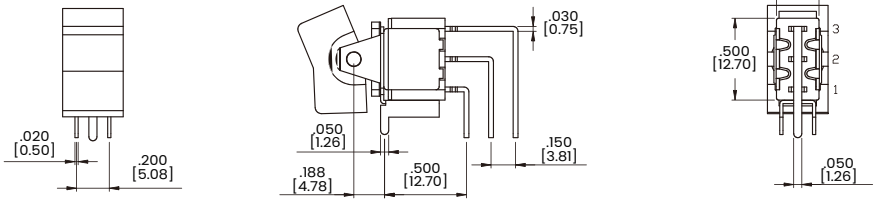
M6 Double Pole



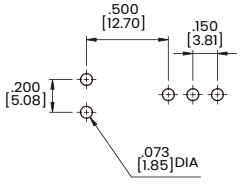
P.C.MOUNTING



M7 Single Pole



P.C.MOUNTING

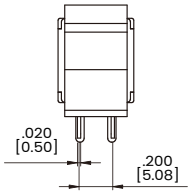


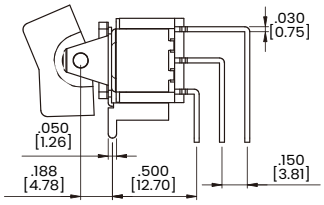
Dimensional Specs

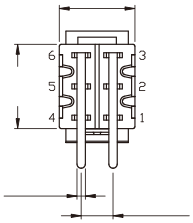
inches [millimeters]

Termination Options

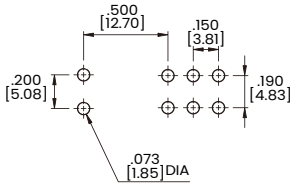
M7 Double Pole



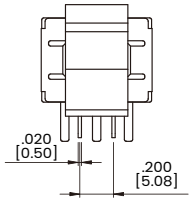


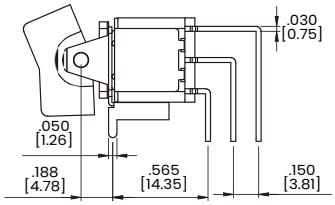


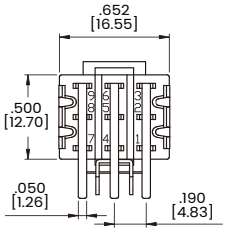
P.C.MOUNTING



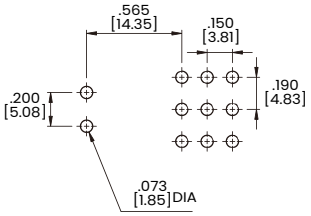
M7 Three Pole



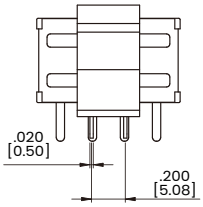


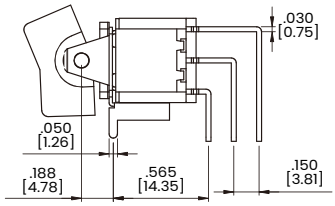


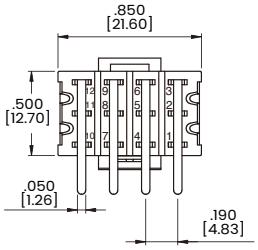
P.C.MOUNTING



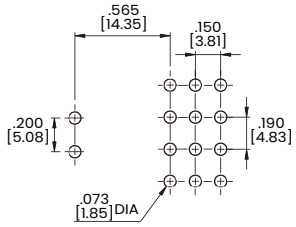
M7 Four Pole



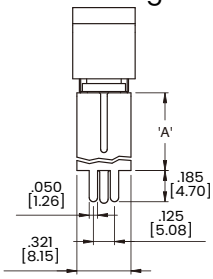


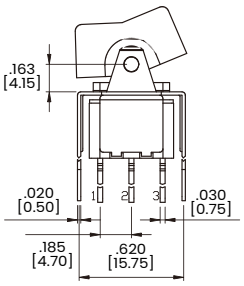


P.C.MOUNTING



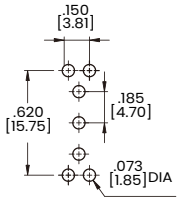
VS2-VS3 Single Pole



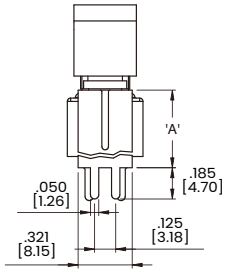


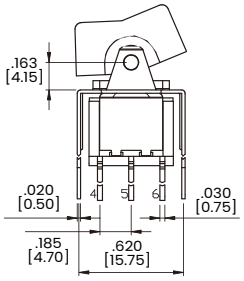
OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

P.C.MOUNTING



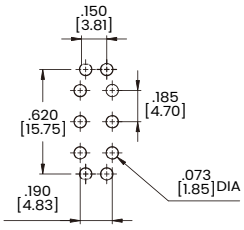
VS2-VS3 Double Pole





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

P.C.MOUNTING

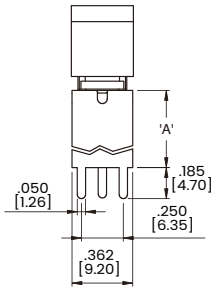


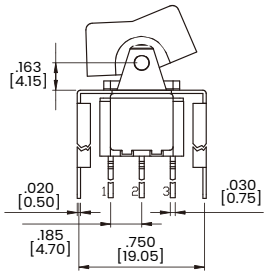
Dimensional Specs

inches [millimeters]

Termination Options

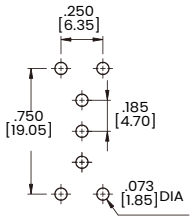
VS4-VS5 Single Pole



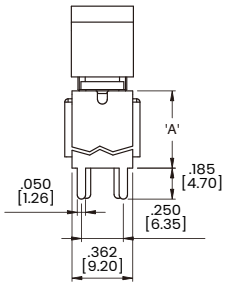


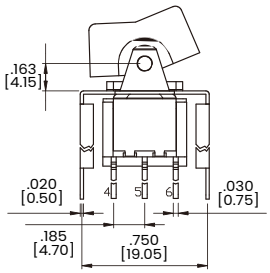
OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

P.C.MOUNTING



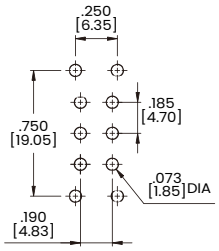
VS4-VS5 Double Pole



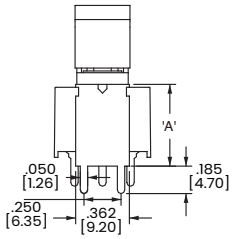


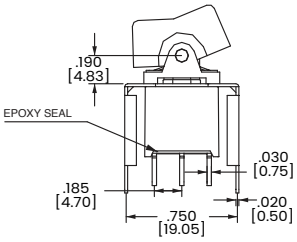
OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

P.C.MOUNTING



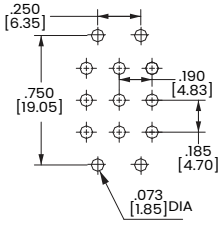
U4-VS5 Three Pole





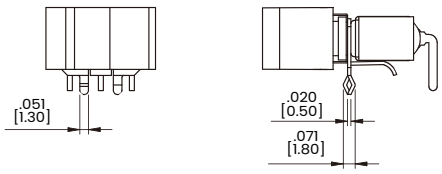
OPTION CODE	DIM.'A'
U4	.551 [14.00]
VS5	.630 [16.00]

P.C.MOUNTING

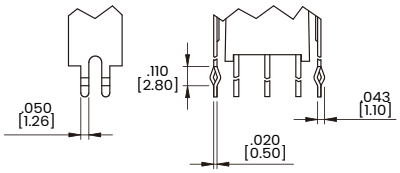


Snap-In Termination Options

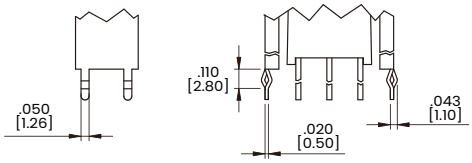
M61



VS21, VS31



VS41, VS51



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

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