

1SS/1S1/1SM

1S-Series

SUB-MINIATURE ROCKERS

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



1SS-Series



1S1-Series



1SM-Series

Product Highlights:

- ♦ IP67 Sealing
- ♦ 5 Circuit Configurations
- ♦ 3 Rocker Styles to choose from
- ♦ Dry-Circuit thru 3A 125VAC Rating
- ♦ Snap-in, Solder Lug or PC Terminations

Typical Applications:

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

Resources:

Download 3D CAD Files

[IGS >](#) [STP >](#)



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1SS-Series
Sealed
Sub-Miniature
Rocker Switch



1S1-Series
Sub-Miniature
Rocker Switch



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

Electrical

Contact Rating	refer to ordering scheme
Electrical Life	1S1-Series: 30,000 make & break cycles @ full load 1SS & 1SM-Series: 50,000 make & break cycles @ full load
Contact Resistance	20 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts
Insulation Resistance	1000 MΩ min.
Dielectric Strength	1500 Volts RMS @ sea level

Physical

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

Material

Case	all UL94 V-0 1S1-Series: Diallyl phthalate (DAP) 1SS-Series: Glass filled nylon 6/6, flame retardant, heat stabilized 1SM-Series: Glass filled nylon 4/6, flame retardant, heat stabilized
Rocker	1S1-Series: Nylon (UL 94V-0) 1SS & 1SM-Series: Nylon, black standard, internal o-ring sealed
Bushing	1S1-Series: Brass, nickel plated 1SS-Series: Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0) 1SM-Series: Glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0)
Housing	1S1-Series: Stainless Steel
Switch Support	1S1 & 1SM-Series: Brass, tin plated
Terminal Seal	Epoxy

1SS - **WMSP** **1** - **R2** / **2** **M2** **G** **E**

1 Series 2 Poles 3 Circuit 4 Actuator Style 5 Actuator Color 6 Termination 7 Contacts 8 Seal

1 SERIES

1SS Sealed Sub-Miniature Rocker Switch

2 POLES

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

3 CIRCUIT

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

4 ACTUATOR STYLE

R1 Small Rocker
R2 Narrow Black Rocker

5 ACTUATOR COLOR

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

6 TERMINATION

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

See page 6-7 for dimensional specifications.

7 CONTACTS / TERMINALS

	Contact Material	Terminal Plating	Rating	Approvals
G	silver ¹	gold over silver	3A 125VAC or 28VDC, 1.5A 250VAC	IP67
K	gold 2.5	tin ⁴	0.4VA max 20V max (AC/DC)	IP67
P	silver ^{1,6}	tin ⁴	3A 125VAC or 28VDC, 1.5A 250VAC	IP67
R	gold ²	gold ^{2,3}	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 terminal.
- ¹ Movable contact and terminal platings: silver over copper alloy
- ² Movable contact platings: gold over nickel over copper alloy
- ³ Terminal platings: gold over nickel over copper alloy
- ⁴ Terminal platings: tin over copper alloy
- ⁵ Terminal contact platings: gold over nickel alloy
- ⁶ Terminal contact platings: silver over nickel alloy

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

1S1 - MSP 1 - R2 / 2 M6 Q E

1 Series 2 Poles 3 Circuit 4 Actuator Style 5 Actuator Color 6 Termination 7 Contacts 8 Seal

1 SERIES**1S1** Sub-Miniature Rocker Switch**2 POLES****MSP** Single pole - uses terminals 1, 2 & 3**MDP** Double pole - uses terminals 1, 2, 3, 4, 5 & 6**3 CIRCUIT**

() - momentary

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

4 ACTUATOR STYLE

R1 Small Rocker
R2 Narrow Black Rocker
R3 Medium Rocker

5 ACTUATOR COLOR

1 White
 2 Black
 3 Red

Other colors available, consult factory.

6 TERMINATION

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

See page 8-9 for dimensional specifications.

7 CONTACTS / TERMINALS

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

8 EPOXY SEAL**E** Epoxy Seal 0 without Epoxy Seal

Notes:

Tin option available with M1 termination.

- 1 Movable contact and terminal platings: silver over copper alloy
 2 Movable contact and terminal platings: gold over nickel over copper alloy
 3 Terminal platings: tin over nickel over copper alloy

1SM - WMSP 1 - R2 - M2 G E

1 Series 2 Poles 3 Circuit 4 Actuator Style 5 Termination 6 Contacts 7 Seal 8 Packaging

1 SERIES**1SM** Sealed Surface Mount Sub-Miniature Rocker Switch**2 POLES****WMSP** Single pole - uses terminals 1, 2 & 3**3 CIRCUIT**

() - momentary

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

4 ACTUATOR STYLE**R2** Narrow Black Rocker**5 TERMINATION**

M6 Surface Mount, 90° flat - horizontal / side
S6 Surface Mount, 90° horizontal / back
S7 Surface Mount, 90° vertical

See page 10 for dimensional specifications.

6 CONTACTS / TERMINALS

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

7 EPOXY SEAL**E** Epoxy Seal 0 without Epoxy Seal**8 PACKAGING****T/R** tape reel - 500 pieces per reel

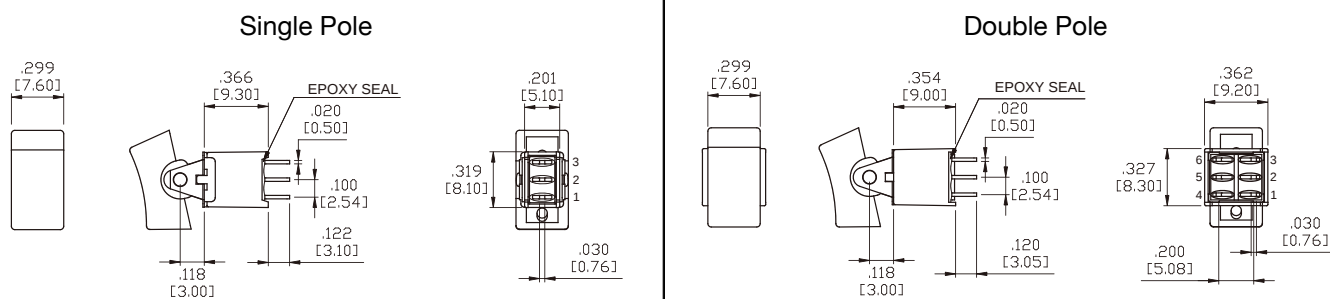
Switches are bulk packed, unless T/R is specified at the end of the part number.

Notes:

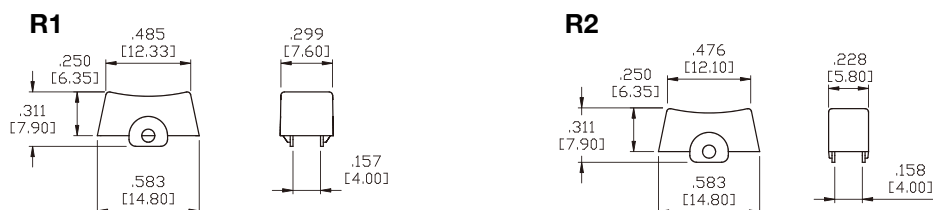
Tin option not available with M1 termination.

- 1 Movable contact and terminal platings: silver over copper alloy
 2 Movable contact platings: gold over nickel over copper alloy
 3 Terminal platings: gold over nickel over copper alloy
 4 Terminal platings: tin over copper alloy
 5 Terminal contact platings: gold over nickel alloy
 6 Terminal contact platings: silver over nickel alloy

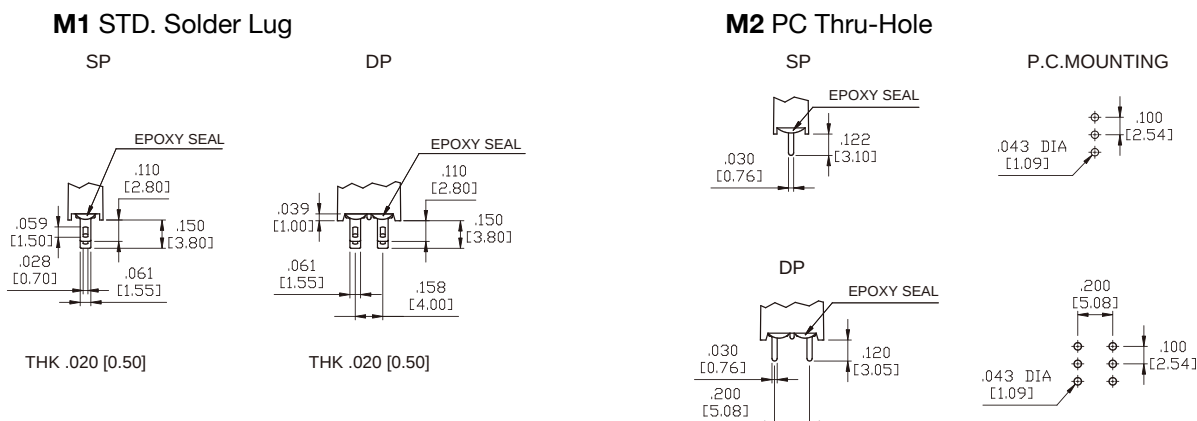
1SS-Series Dimensional Specifications: in. [mm]



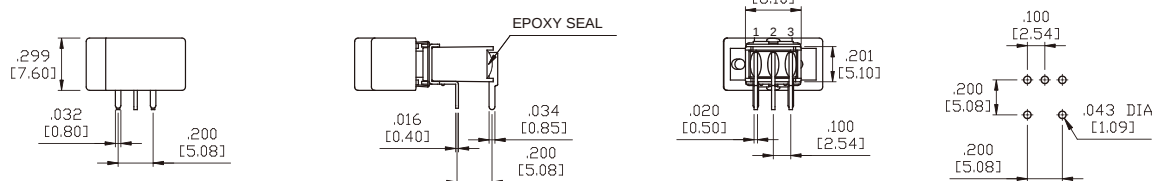
Actuator Options



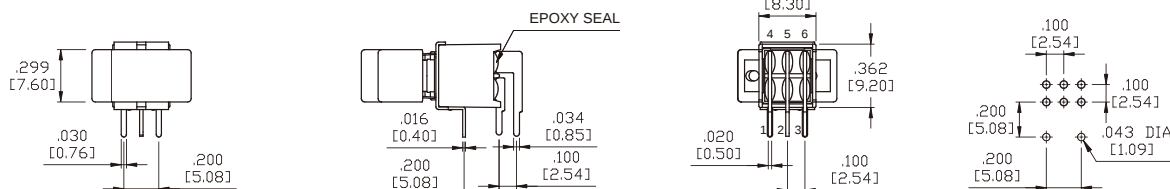
Termination Options



M6 Single Pole

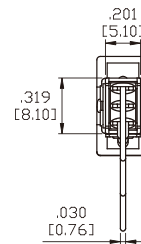
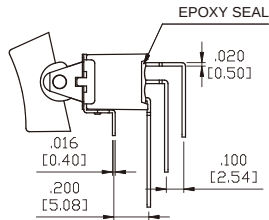
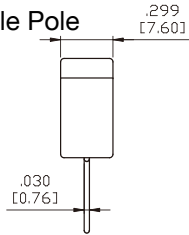
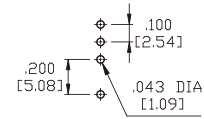
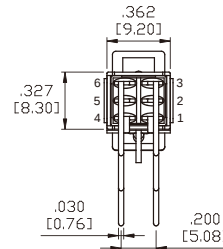
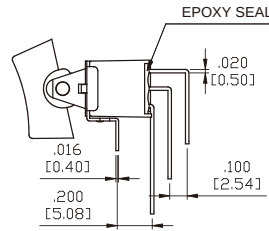
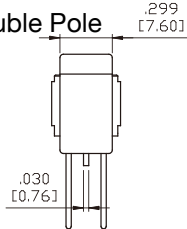
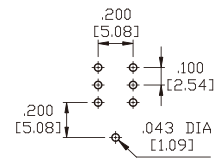
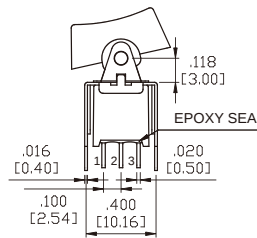
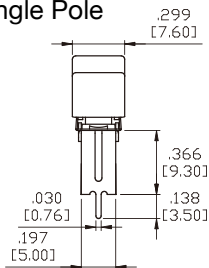
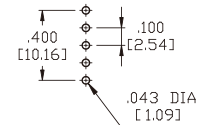
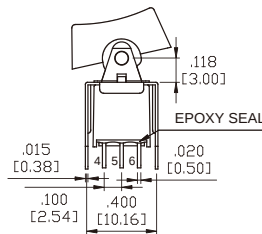
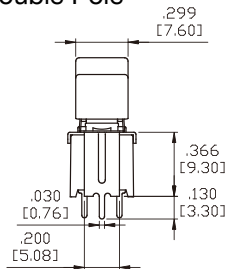
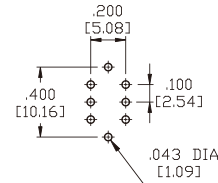


M6 Double Pole

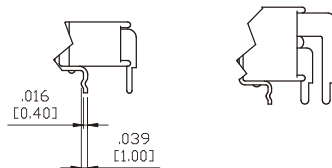
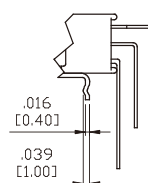
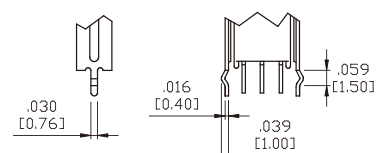


1SS-Series Dimensional Specifications: in. [mm]

Termination Options

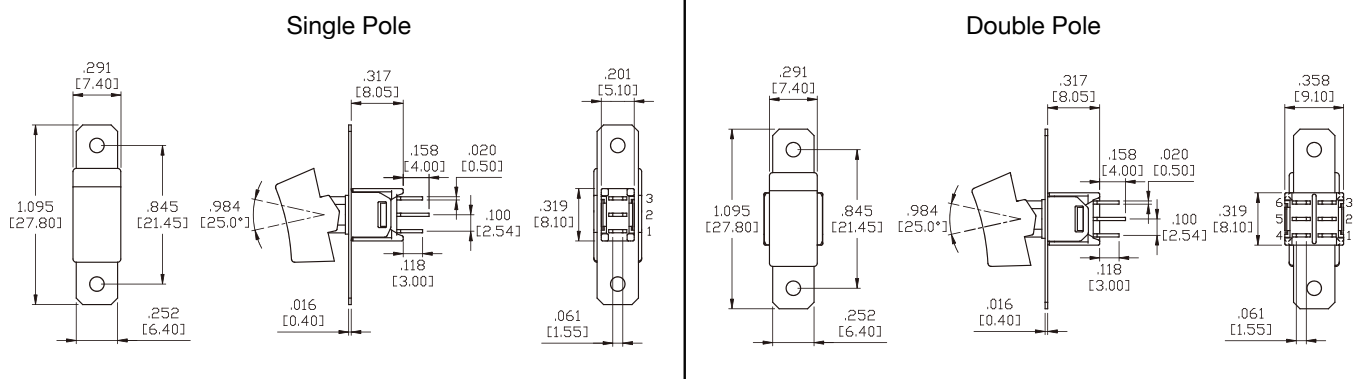
M7 Single Pole

P.C.MOUNTING

M7 Double Pole

P.C.MOUNTING

VS2 Single Pole

P.C.MOUNTING

VS2 Double Pole

P.C.MOUNTING


Snap-In Termination Options

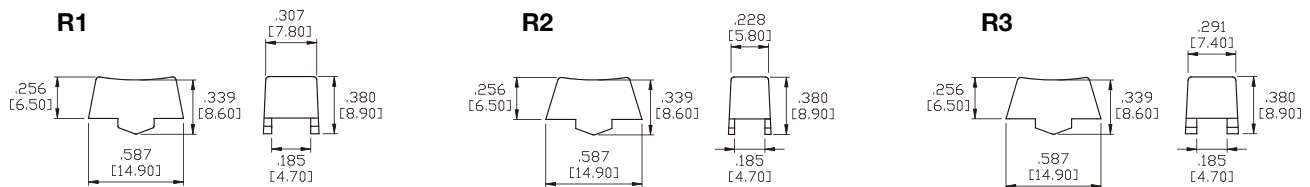
M61

M71

VS21


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

1S1-Series Dimensional Specifications: in. [mm]

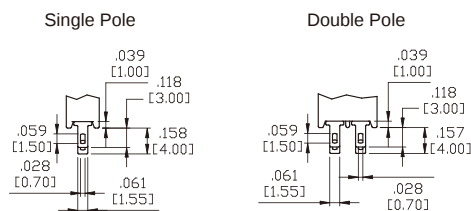


Actuator Options

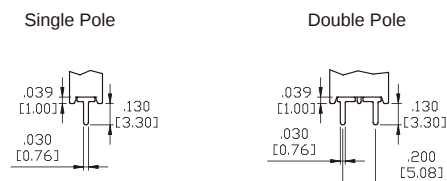


Termination Options

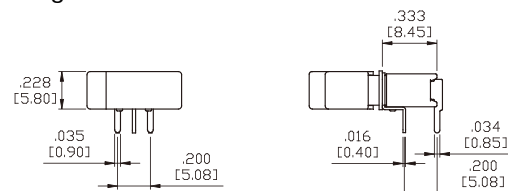
M1 STD. Solder Lug



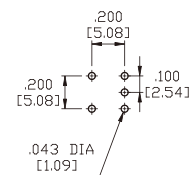
M2 PC Thru-Hole



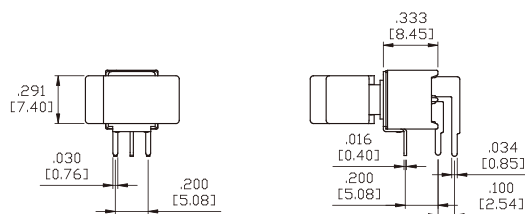
M6 Single Pole



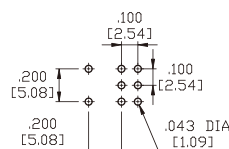
P.C.MOUNTING



M6 Double Pole



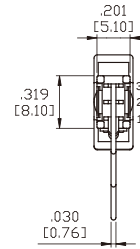
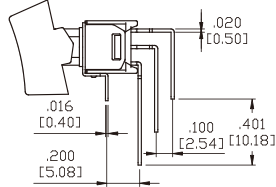
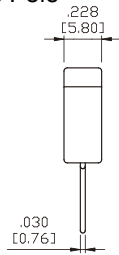
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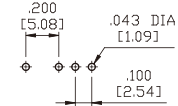
1S1-Series Dimensional Specifications: in. [mm]

Termination Options

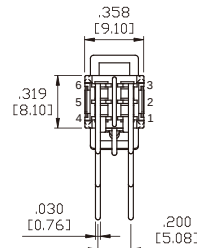
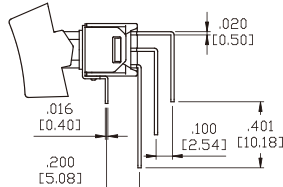
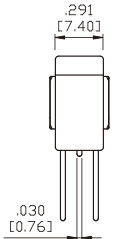
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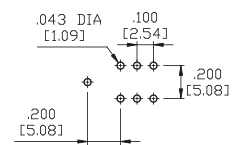
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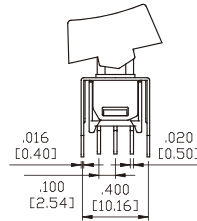
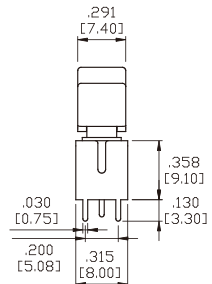
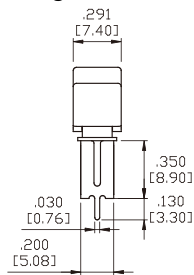
M7 Double Pole



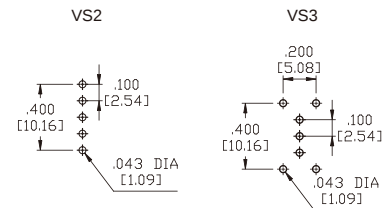
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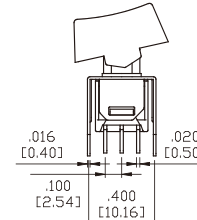
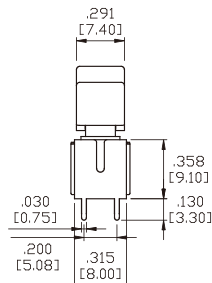
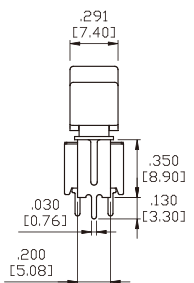
VS2-VS3 Single Pole



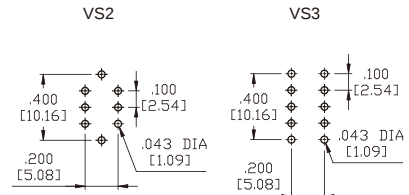
P.C.MOUNTING



VS2-VS3 Double Pole

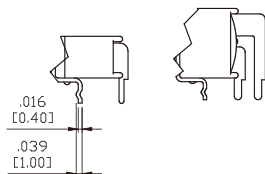


P.C.MOUNTING

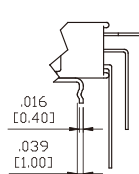


Snap-In Termination Options

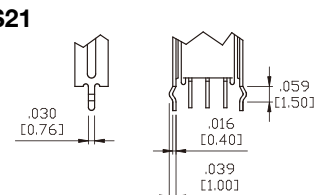
M61



M71

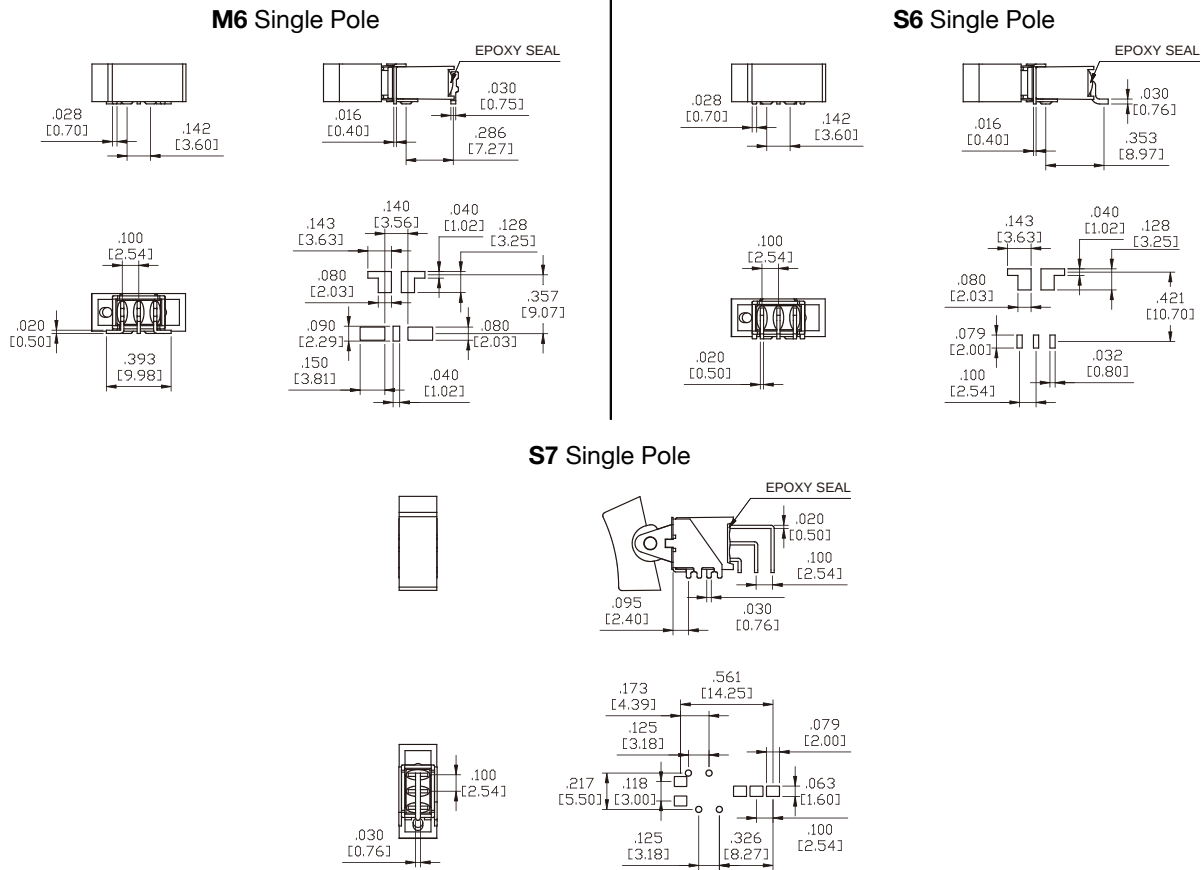


VS21

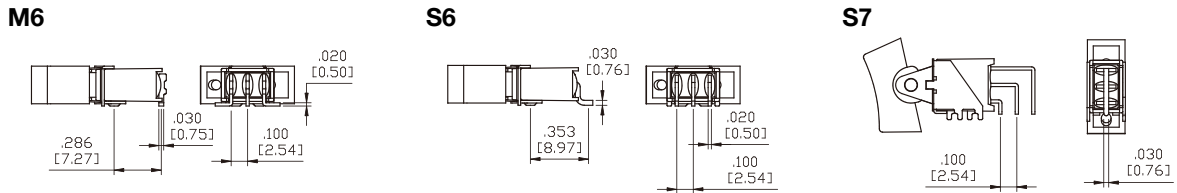


* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.

1SM-Series Dimensional Specifications: in. [mm]



Termination Options



Authorized Sales Representatives

Click on the group name on the map below to find your local representative or visit www.carlingtech.com/findarep.



About Carling

Founded in 1920, Carling Technologies is a leading manufacturer of electrical and electronic switches and assemblies, circuit breakers, electronic controls, power distribution units, and multiplexed power distribution systems. With four ISO registered manufacturing facilities and technical sales offices worldwide, Carling Technologies Sales, Service and Engineering teams do much more than manufacture electrical components, they engineer powerful solutions! To learn more about Carling please visit www.carlingtech.com/company-profile.

To view all of Carling's environmental, quality, health & safety certifications please visit www.carlingtech.com/environmental-certifications

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