

2M-Series

MINIATURE TOGGLES

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



2M1H-Series



2MS-Series



2M1-Series

Product Highlights:

- ♦ IP67 Sealing
- ♦ 8 Single and Double Pole Circuits
- ♦ Long, Short and Flatted Bushing Options
- ♦ Large Variety of Termination Options
- ♦ Available Gold, Silver and Tin Platings
- ♦ UL Approved
- ♦ Sleek Black Finish

Typical Applications:

- ♦ Telecommunications
- ♦ Instrumentation
- ♦ Networking
- ♦ Medical Equipment
- ♦ Military Communications

Resources:

Download 3D CAD Files

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



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2M1H-Series
Premium Sealed
Miniature
Toggle Switch



2MS-Series
Sealed
Miniature
Toggle Switch



2M1-Series
Miniature
Toggle Switch

Electrical

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

Physical

Operating Temperature	-30°C to +85°C
Index of Protection	<i>2M1H-Series:</i> IP67 <i>2MS-Series:</i> IP67
Solder Heat Resistance	MIL-STD-202, Method 210
Actuator Travel	25°

Material

Case	<i>2M1H-Series & 2M1-Series:</i> Dially phthalate (DAP) (UL 94V-0) <i>2MS-Series:</i> Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0)
Toggle	<i>2M1H-Series:</i> Brass, black finish with o-ring seal <i>2MS-Series:</i> Brass, chrome plated, internal o-ring sealed <i>2M1-Series:</i> Brass, chrome plated
Bushing	<i>2M1H-Series:</i> Brass, black finish with o-ring seal <i>2MS-Series:</i> Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0) <i>2M1-Series:</i> Brass, nickel plated
Housing	Stainless Steel
Bracket	<i>2MS-Series:</i> Nylon (UL 94V-0) <i>2M1-Series:</i> Stainless Steel
Actuator Pivot Retainer	<i>2MS-Series:</i> Stainless Steel
Switch Support	Brass, tin plated
Terminal Seal	Epoxy

2M1H - **DP1** - **TJ** - **BJ** - **M2** **R** **E**
 1 Series 2 Pole / Circuit 3 Actuator Style 4 Bushing 5 Termination 6 Contacts 7 Seal

1 SERIES

2M1H Premium Sealed Miniature Toggle Switch

2 POLE / CIRCUIT

() - momentary

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

*Center position connects 2-3, 5-4

3 ACTUATOR STYLE

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

4 BUSHING

BJ .429" [10.90 mm] threaded, length **BK** .386" [9.80 mm] threaded, flat

5 TERMINATION ⁷

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

6 CONTACTS / TERMINALS

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

7 EPOXY SEAL

E Epoxy Seal

Notes:

Switches supplied with (1) 2M1-HDW4 hex nut and (1) 3MNH-WCP-0872 O-Ring

- Movable contact and terminal platings: silver over copper alloy
- Movable contact and terminal platings: gold over nickel over copper alloy
- Terminal platings: gold over nickel over copper alloy
- Terminal platings: tin over copper alloy
- Terminal contact platings: gold over nickel alloy
- Terminal contact platings: silver over nickel alloy
- Tin option not available with M1 & M3 terminations.

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

2M-Series Accessories

To order accessories assembled on a switch, specify the switch number followed by the accessory part number and the word "assembled". Ex: 2M1-SP1-T1-B1-M1QE-T12 ASSEMBLED. To order accessories in bulk, specify the Series, followed by the accessory. Ex: 2M1-T12. See page 76 for dimensional specifications.

Optional Toggle Cap

2M1 – **T1** **2**

¹
Series

²
Toggle Cap Size

³
Color

1 SERIES

2M1 Fits 2M1H, 2MS or 2M1

3 CAP COLOR

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

2 TOGGLE CAP SIZE

T1 10.6 mm **T2** 7.6 mm

Optional Dress and Knurled Nuts

2M1 – **HDW3**

¹
Series

²
Nut

1 SERIES

2M1 Fits 2M1H, 2MS or 2M1

2 NUT

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

Optional Rubber Seals

2M1 – **E1A**

¹
Series

²
Rubber Boot Seal

1 SERIES

2M1 Fits 2M1H, 2MS or 2M1

2 RUBBER BOOT SEAL

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

3MNH – **WCP-0872**

¹
Series

²
Rubber O-Ring

1 SERIES

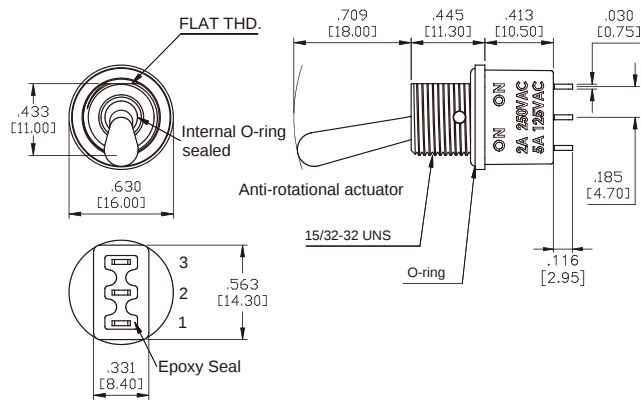
3MNH Fits 3MNH or 2M1H

2 RUBBER O-RING

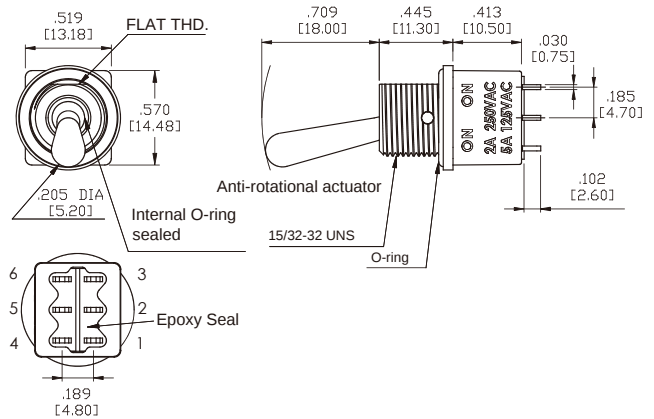
WCP-0872 For 15/32 bushing option

2M1H-Series Dimensional Specifications: in. [mm]

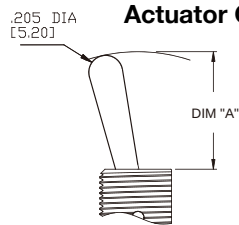
Single Pole



Double Pole

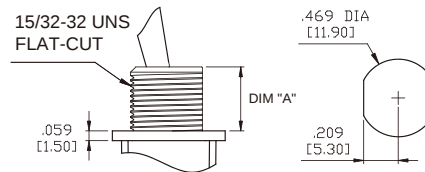


Actuator Options



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

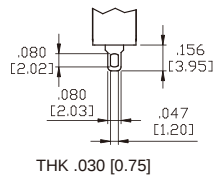
Bushing Options & Mounting



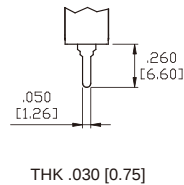
OPTION CODE	DIM. "A"
BJ	.429 [10.90]
BK	.386 [9.80]

Termination Options

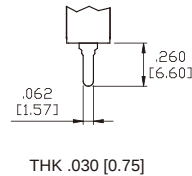
M1 Standard Solder Lug



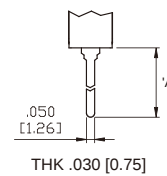
M2 PC Thru-Hole



M3 Quick Connect



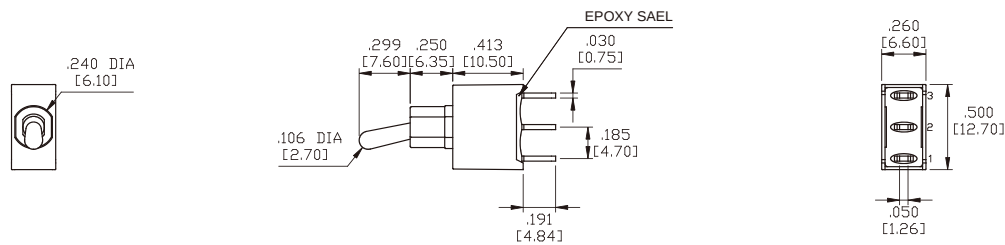
M5 Wire Wrap



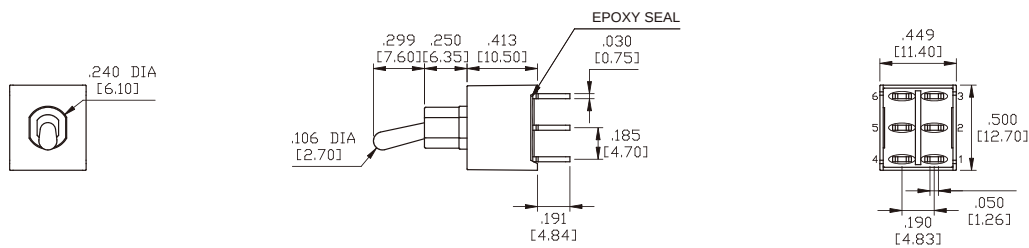
OPTION CODE	DIM. "A"
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]
M5-4	1.062 [26.97]

2MS-Series Dimensional Specifications: in. [mm]

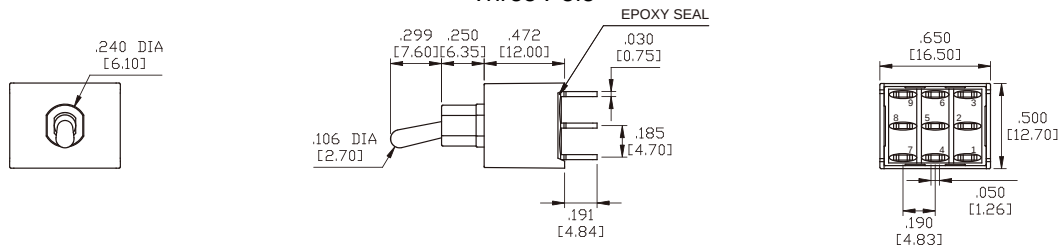
Single Pole



Double Pole

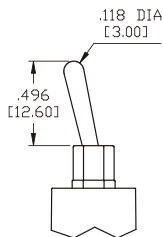


Three Pole

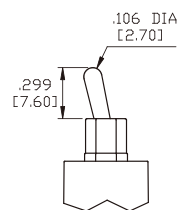


Actuator Options

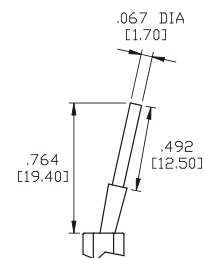
T1



T2

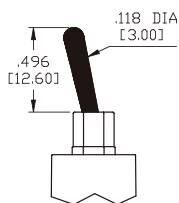


T9 with Plastic Cap

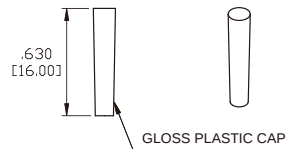
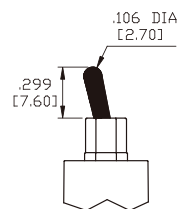


NO.	COLOR
1	White
2	Black(std.)
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
8	Brown
9	Gray

P1 Plastic Toggle



P2 Plastic Toggle

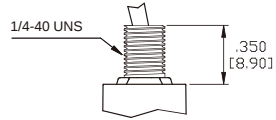


* Shown with B4 bushing. Subtract .075" (1.90 mm) from actuator height for B1 bushing.

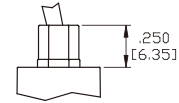
2MS-Series Dimensional Specifications: in. [mm]

Bushing Options

B1

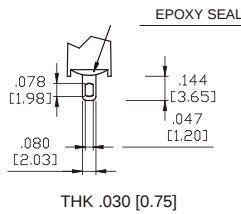


B4

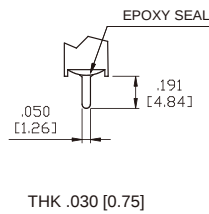


Termination Options

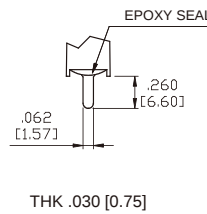
M1 Standard Solder Lug



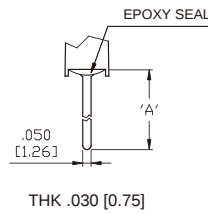
M2 PC Thru-Hole



M3 Quick Connect

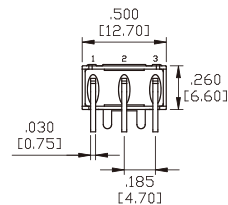
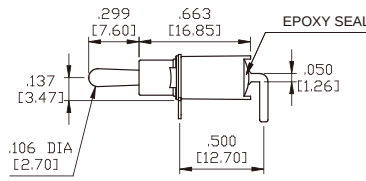
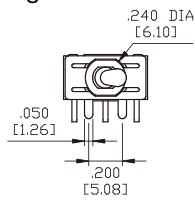


M5 Wire Wrap

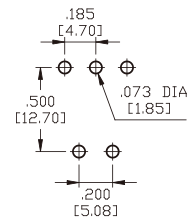


OPTION CODE	DIM. 'A'
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]
M5-4	1.062 [26.97]

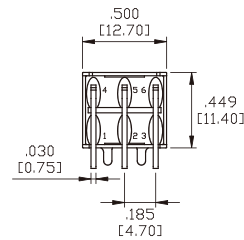
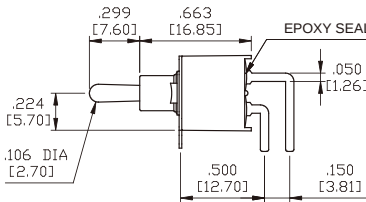
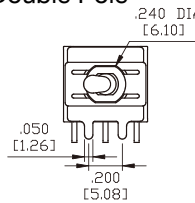
M6 Single Pole



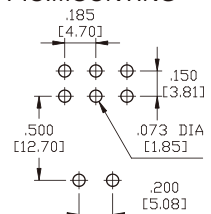
P.C.MOUNTING



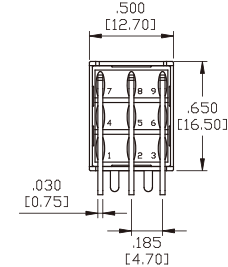
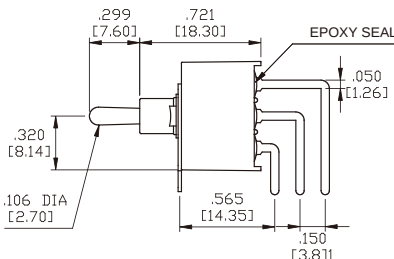
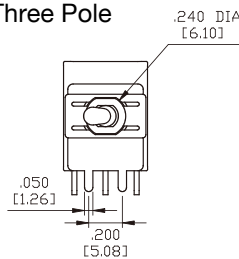
M6 Double Pole



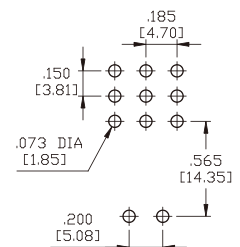
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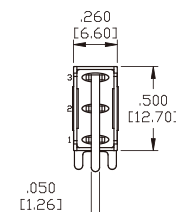
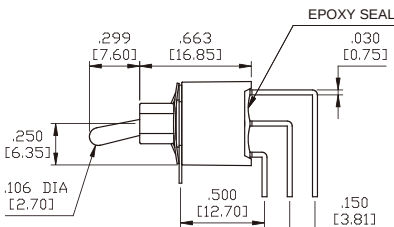
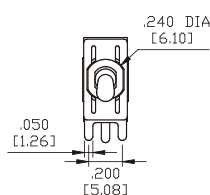
M6 Three Pole



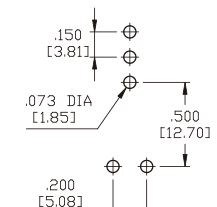
P.C.MOUNTING



M7 Single Pole



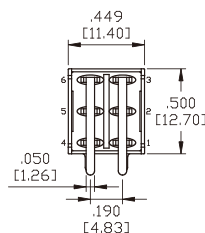
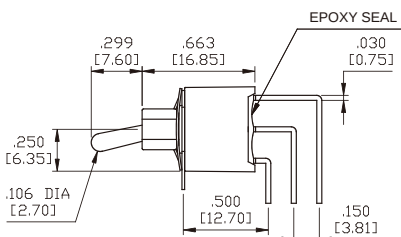
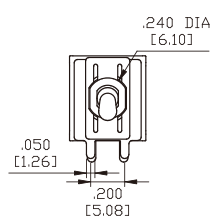
P.C.MOUNTING



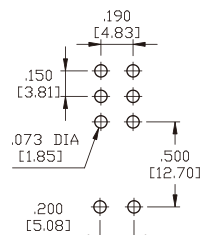
2MS-Series Dimensional Specifications: in. [mm]

Termination Options

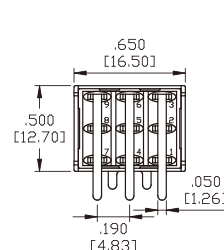
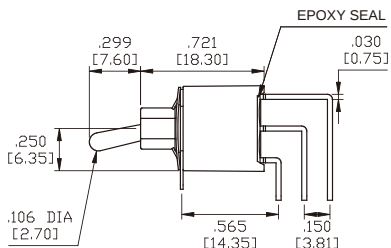
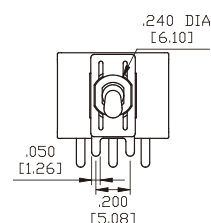
M7 Double Pole



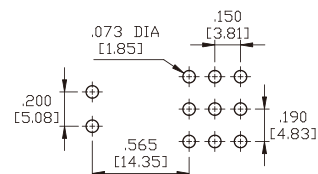
P.C.MOUNTING



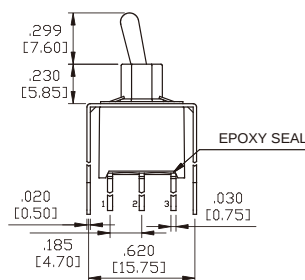
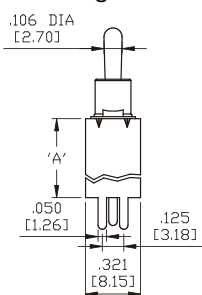
M7 Three Pole



P.C.MOUNTING

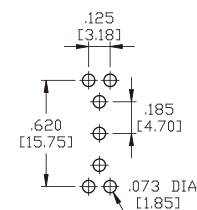


VS2-VS3 Single Pole

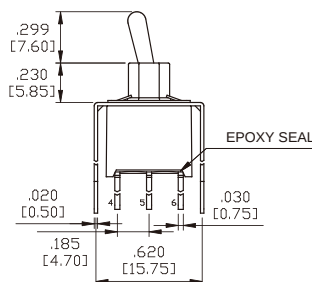
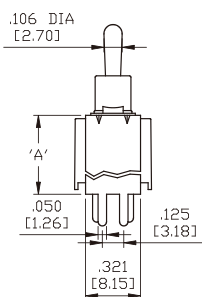


OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

P.C.MOUNTING

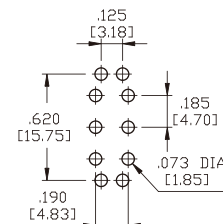


VS2-VS3 Double Pole

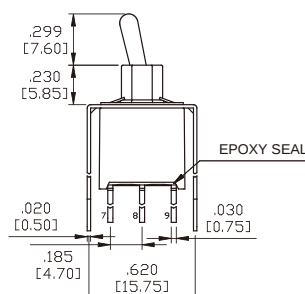
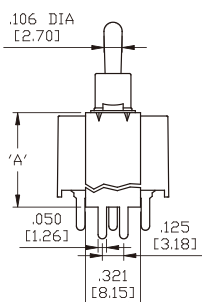


OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

P.C.MOUNTING

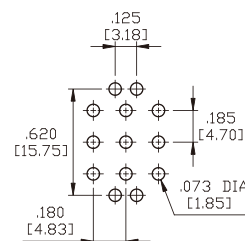


U2-VS3 Three Pole



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

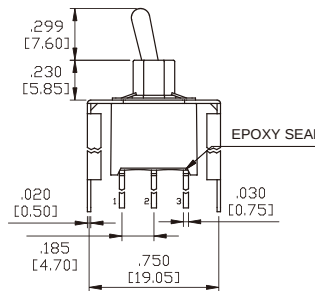
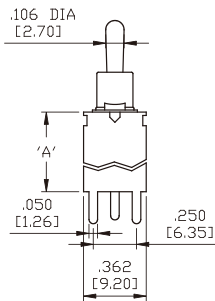
P.C.MOUNTING



2MS-Series Dimensional Specifications: in. [mm]

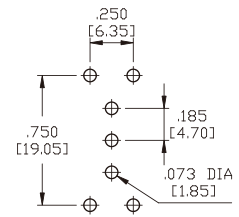
Termination Options

VS4-VS5 Single Pole

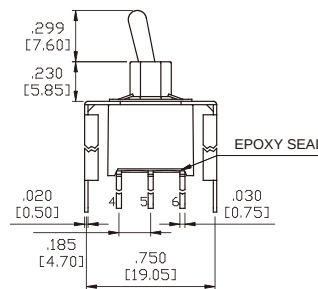
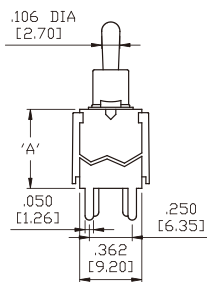


OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

P.C.MOUNTING

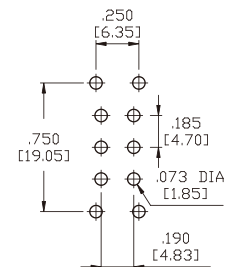


VS4-VS5 Double Pole

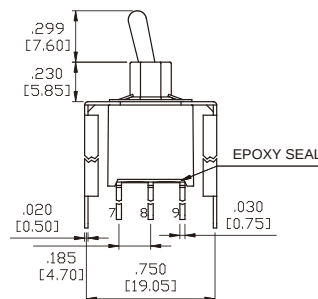
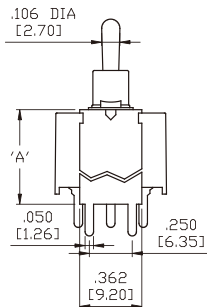


OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

P.C.MOUNTING

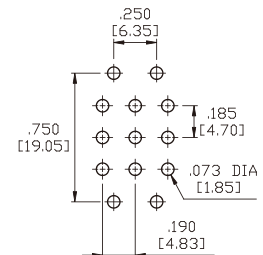


U4-VS5 Three Pole



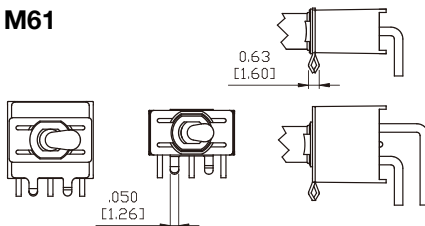
OPTION CODE	DIM.'A'
U4	.551 [14.00]
VS5	.630 [16.00]

P.C.MOUNTING

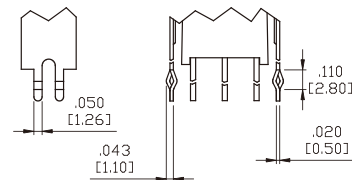


Snap-In Termination Options

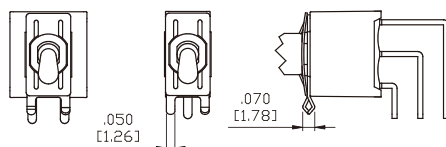
M61



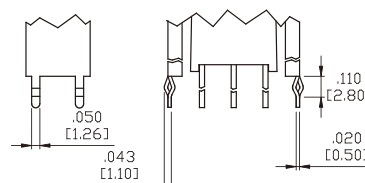
VS21, VS31



M71

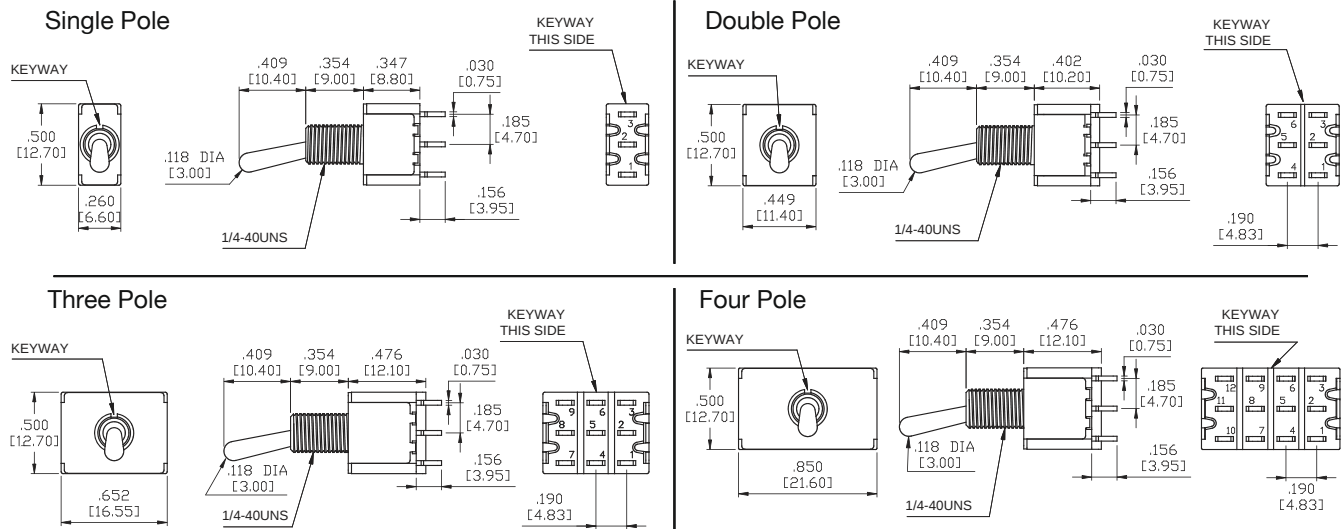


VS41, VS51

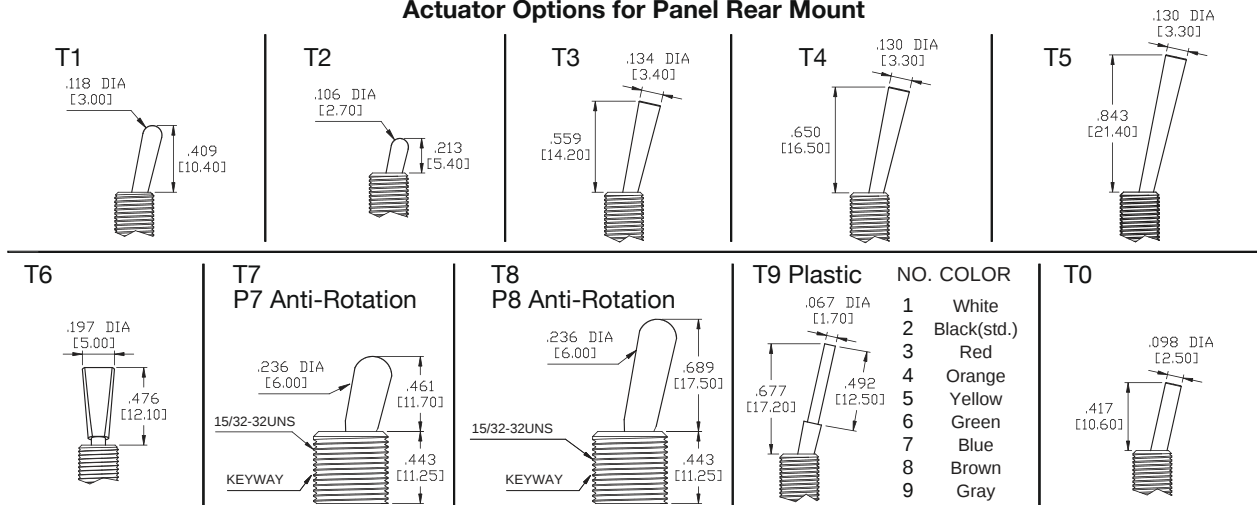


* PC Mounting for M61, M71, VS21, VS31, VS41, VS51 refer to M6, M7, VS2, VS3, VS4, VS5 respectively.

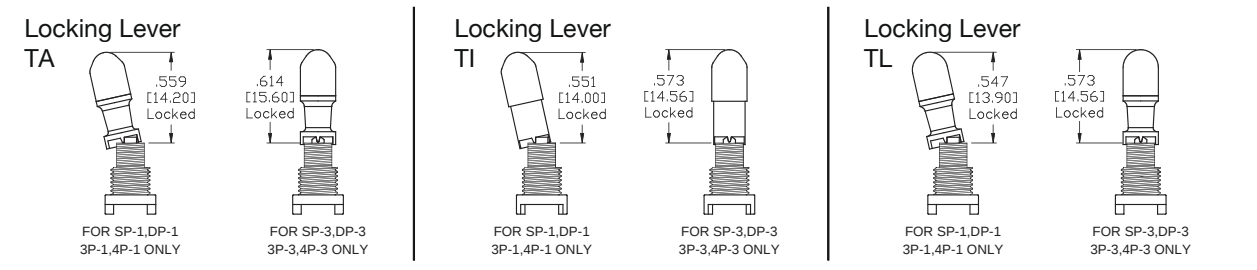
2M1-Series Dimensional Specifications: in. [mm]



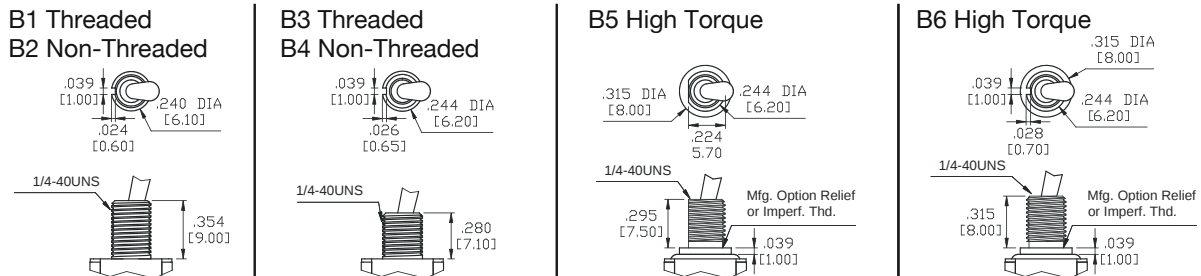
Actuator Options for Panel Rear Mount



* T6 actuator is available with B1, B2, B5, B6, BA, BB & BE bushing. Actuator length shown for T1 – T5, T9 and T10 is with B1 bushing. T7, P7, T8 & P8 does not require a bushing code.



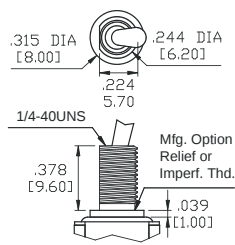
Bushing Options



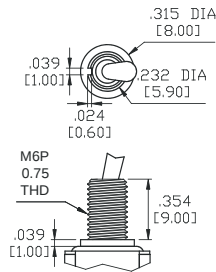
2M1-Series Dimensional Specifications: in. [mm]

Bushing Options

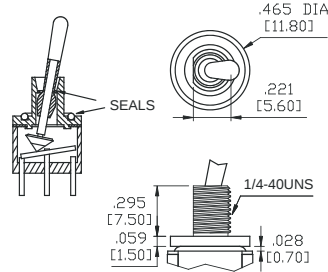
B7 Long



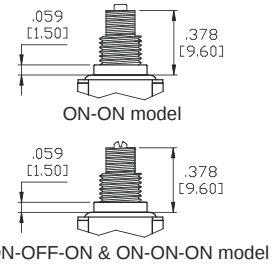
B8 Metric



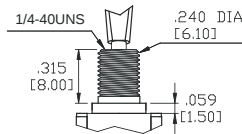
B9 Splash-Proof



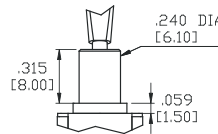
BL Locking Lever



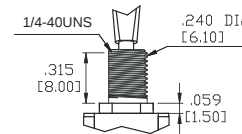
BA Threaded for T6



BB Non-Threaded for T6

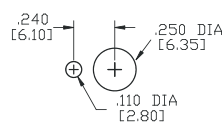
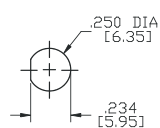
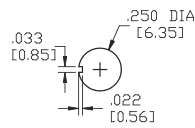


BB High Torque for T6

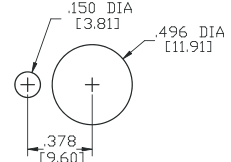
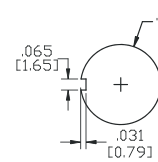


Panel Mounting

1/4 INCH BUSHING

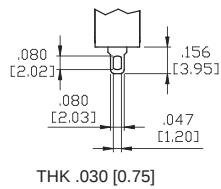


15/32 INCH BUSHING

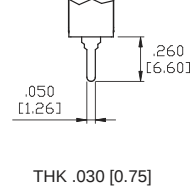


Termination Options

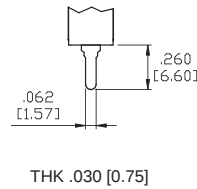
M1 Standard Solder Lug



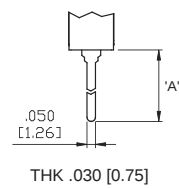
M2 PC Thru-Hole



M3 Quick Connect

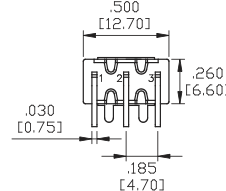
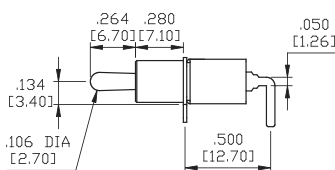
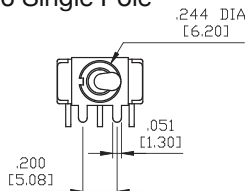


M5 Wire Wrap

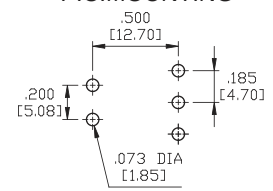


OPTION CODE	DIM.'A'
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]
M5-4	1.062 [26.97]

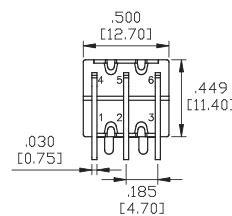
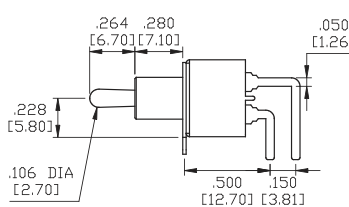
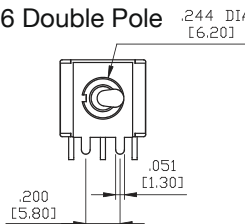
M6 Single Pole



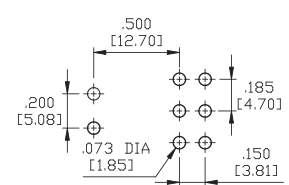
P.C.MOUNTING



M6 Double Pole



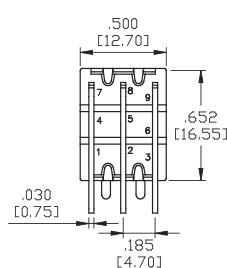
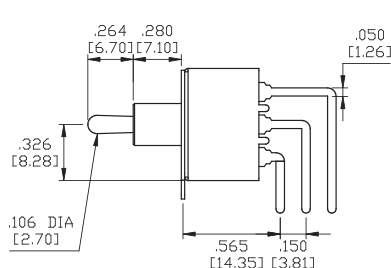
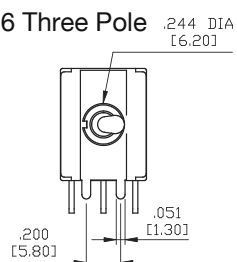
P.C.MOUNTING



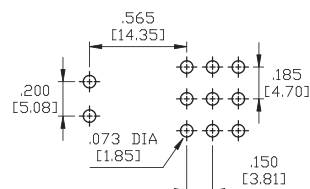
2M1-Series Dimensional Specifications: in. [mm]

Termination Options

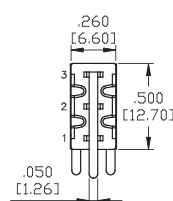
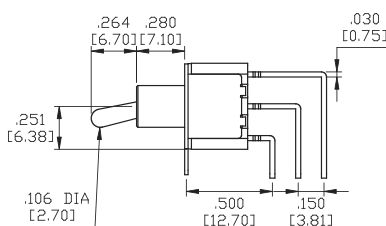
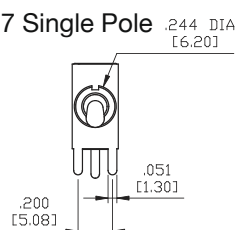
M6 Three Pole



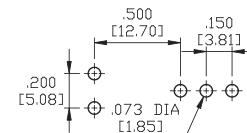
P.C.MOUNTING



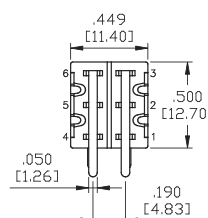
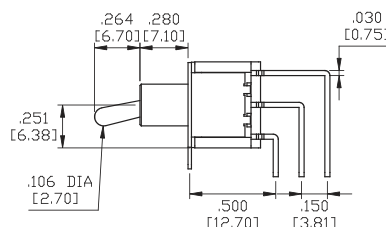
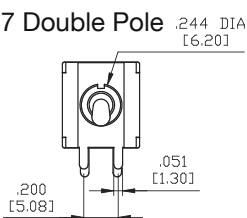
M7 Single Pole



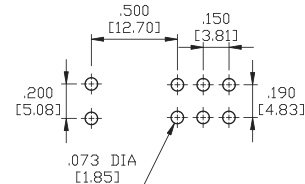
P.C.MOUNTING



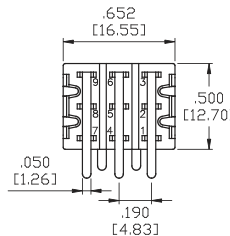
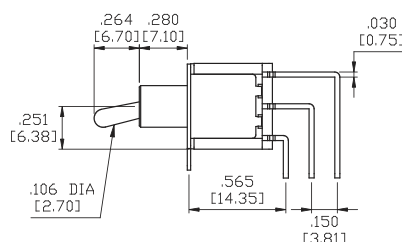
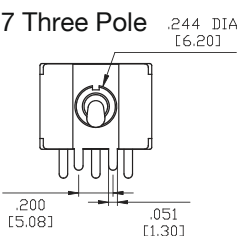
M7 Double Pole



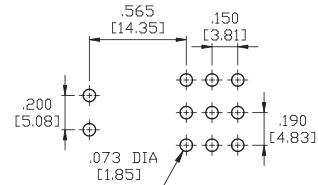
P.C.MOUNTING



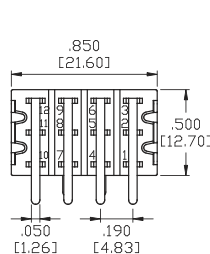
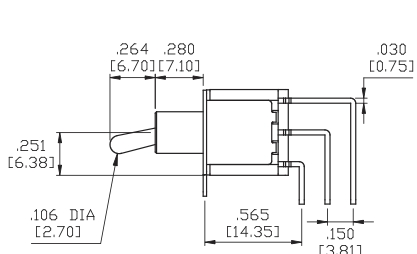
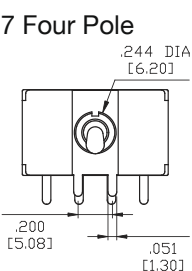
M7 Three Pole



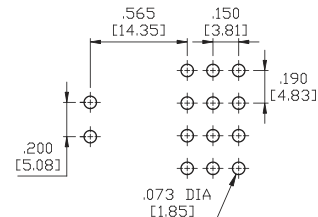
P.C.MOUNTING



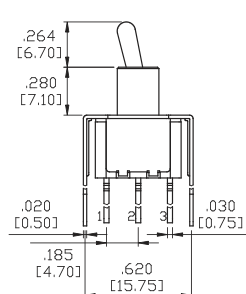
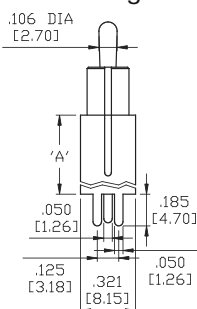
M7 Four Pole



P.C.MOUNTING

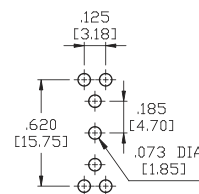


VS2-VS3 Single Pole



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

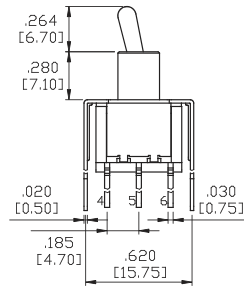
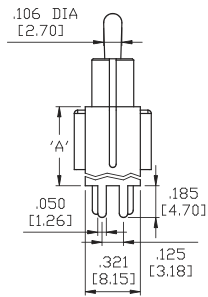
P.C.MOUNTING



2M1-Series Dimensional Specifications: in. [mm]

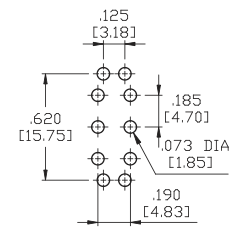
Termination Options

VS2-VS3 Double Pole

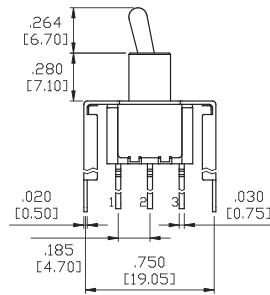
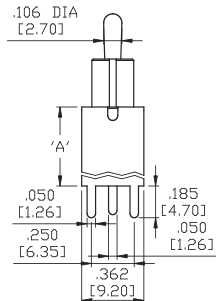


OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]

P.C.MOUNTING

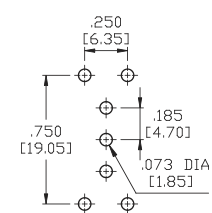


VS4-VS5 Single Pole

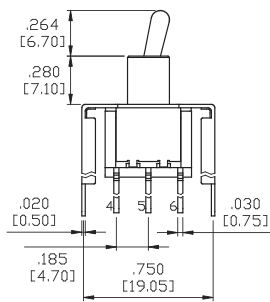
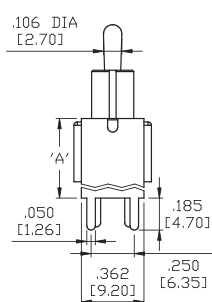


OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

P.C.MOUNTING

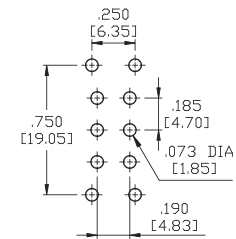


VS4-VS5 Double Pole



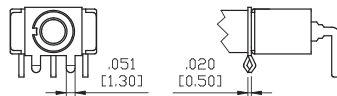
OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

P.C.MOUNTING

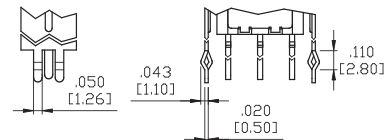


Snap-In Termination Options

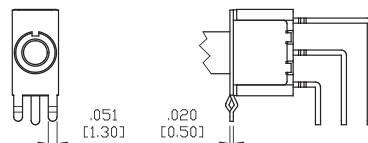
M61 (available with SP & DP)



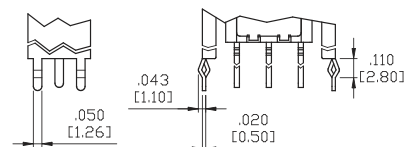
VS21, VS31



M71 (available with SP & DP)



VS41, VS51



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

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[2M1-SP5-T1-B1-M1QE](#) [2M1-SP1-T1-B1-M2QE](#) [2M1SP3T2B1-M1QE](#) [2M1-SP1-T1-B4-VS5QE](#) [2M1-3P1-T1-B1-M1QE](#) [2M1-4P1-T1-B1-M1QE](#) [2M1-DP1-T1-B1-M1QE](#) [2M1-DP1-T1-B1-M2QE](#) [2M1-DP1-T6-B1-M1QE](#) [2M1-DP3-T1-B1-M1QE](#) [2M1-DP3-T1-B1-M2QE](#) [2M1-HDW3](#) [2M1-SP1-T1-B1-M1QE](#) [2M1-SP1-T2-B4-M6RE](#) [2M1-SP1-T6-B1-M1QE](#) [2M1-SP1-T8-B0-M1QE](#) [2M1-SP3-T1-B1-M1QE](#) [2M1-SP3-T1-B1-M2QE](#) [2M1-SP3-T6-B1-M1QE](#) [2M1-SP4-T1-B1-M1QE](#) [2M1-SP1-T4-B1-M1GE](#) [2M1-SP1-T1-B1-M5-2QE](#)