

**1M1-Series**  
Miniature Rocker &  
Paddle Switch



**1MS-Series**  
**Sealed** Miniature  
Rocker & Paddle  
Switch

## Specifications

Contact Rating . . . . .	refer to ordering scheme.
Electrical Life . . . . .	<b>1M1-Series:</b> 50,000 make & break cycles @ full load <b>1MS-Series:</b> 30,000 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
Operating Temperature . . .	-30°C to +85°C
Index of Protection . . . . .	<b>1MS-Series:</b> IP67
Solder Heat Resistance. . .	MIL-STD-202, Method 210
Actuator Travel . . . . .	25°

## Materials

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

## 1M1-Series Ordering Scheme



**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** double pole uses terminals 1,2, 3, 4, 5, 6, 7, 8 & 9.  
**4P** double pole uses terminals 1,2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.

**3 CIRCUIT**  
 ( ) - momentary

**Switching Position:**  
 2-3, 5-6, 8-9, 11-12      OPEN      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)

**4 ACTUATOR STYLE**

<b>R1</b>	Small rocker	<b>R5</b>	Large rocker
<b>R2</b>	Small paddle	<b>R6</b>	Rocker & frame
<b>R3</b>	Medium rocker	<b>R7</b>	Paddle & frame
<b>R4</b>	Large paddle	<b>R8</b>	Rocker w/out frame
		<b>R9</b>	Paddle w/out frame

**5 ACTUATOR COLOR & 6 FRAME COLOR<sup>1,2</sup>**

1 white	4 orange	7 blue
2 black	5 yellow	8 brown
3 red	6 green	9 gray

1 Black is standard. Other colors available, consult factory for details.  
 2 Selection 6 is blank if actuator style R8 or R9 (no frame)

**7 TERMINATION**

<b>M1</b>	Solder Lug	<b>VS4</b>	PC Mount, U bracket, .460 high
<b>M2</b>	PCB	<b>VS5</b>	PC Mount, U bracket, .630 high
<b>M3</b>	Quick Connect	<b>M61</b>	Snap-In, U bracket, 90° horizontal
<b>M5-1</b>	Wire Wrap .750 [19.05]	<b>M71</b>	Snap-In, U bracket, 90° vertical
<b>M5-2</b>	Wire Wrap .964 [24.48]	<b>VS21</b>	Snap-In, U bracket, .620 mounting x .460 high
<b>M5-3</b>	Wire Wrap .425 [10.80]	<b>VS31</b>	Snap-In, U bracket, .620 mounting x .630 high
<b>M5-4</b>	Wire Wrap 1.062 [26.97]	<b>VS41</b>	Snap-In, U bracket
<b>M6</b>	PC Mount, 90° horizontal	<b>VS51</b>	Snap-In, U bracket
<b>M7</b>	PC Mount, 90° vertical		
<b>VS2</b>	PC Mount, U bracket, .620 mounting x .460 high		
<b>VS3</b>	PC Mount, U bracket, .620 mounting x .630 high		

**8 CONTACT**

G	Material	Terminal Plating	Rating	Approvals
	silver <sup>1</sup>	gold over silver <sup>2</sup>	5A@125VAC or 28VDC, 2A @ 250VAC	UL CSA
<b>K</b>	gold <sup>2</sup>	tin-lead <sup>4</sup>	0.4VA max. @20V max (AC/DC)	-
<b>P</b>	silver <sup>1</sup>	tin-lead <sup>4</sup>	5A@125VAC or 28VDC, 2A @ 250VAC	UL CSA
<b>Q</b>	silver <sup>1</sup>	silver <sup>1</sup>	5A@125VAC or 28VDC, 2A @ 250VAC	UL CSA
<b>R</b>	gold <sup>2</sup>	gold <sup>2</sup>	0.4VA max. @20V max (AC/DC)	-

NOTE:  
 Tin-lead option available with PC type terminations only.  
 1 Moveable contact & terminals: copper alloy, silver plate  
 2 Moveable contact & terminals: copper alloy with gold plate over nickel plate  
 3 Terminals: silver plate with outer layer in gold plating  
 4 Outer terminals: copper alloy with tin-lead over nickel plate

**9 EPOXY SEAL**  
**E** epoxy seal

## 1MS-Series Ordering Scheme



**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** double pole uses terminals 1,2, 3, 4, 5, 6, 7, 8 & 9.

**3 CIRCUIT**  
 ( ) - momentary

**Switching Position:**  
 2-3, 5-6, 8-9      OPEN      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)

**4 ACTUATOR STYLE**

<b>R1</b>	Small rocker	<b>R5</b>	Large rocker
<b>R2</b>	Small paddle	<b>R6</b>	Rocker & frame
<b>R3</b>	Medium rocker	<b>R7</b>	Paddle & frame
<b>R4</b>	Large paddle	<b>R8</b>	Rocker w/out frame
		<b>R9</b>	Paddle w/out frame

**5 TERMINATION**

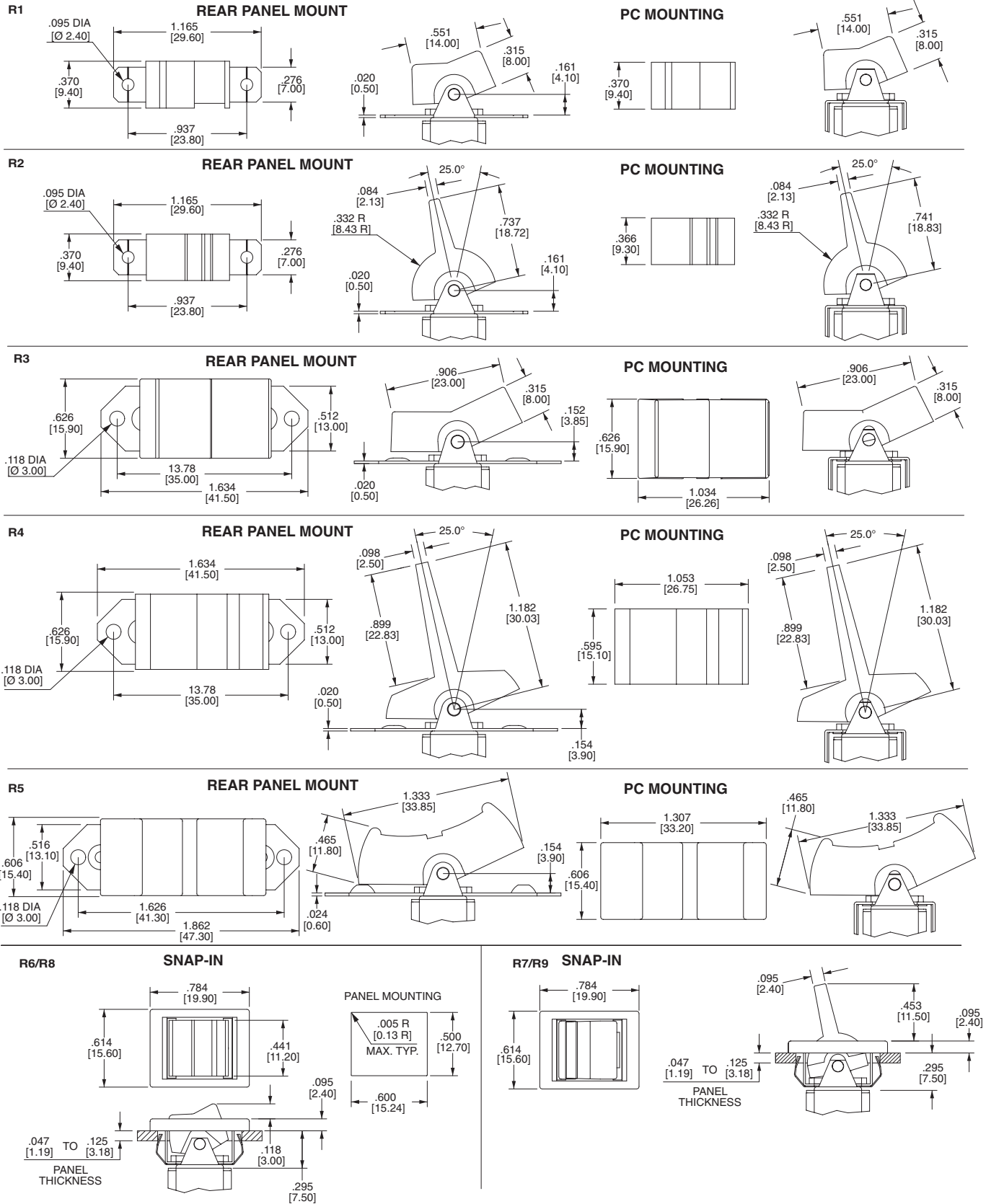
<b>M1</b>	Solder Lug	<b>VS3</b>	PC Mount, U bracket, .620 mounting x .630 high
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<b>M3</b>	Quick Connect	<b>VS5</b>	PC Mount, U bracket, .630 high
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**6 CONTACT**

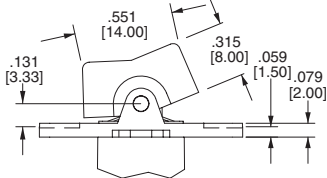
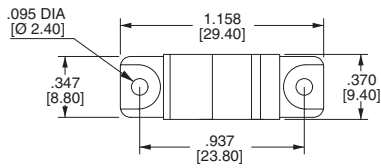
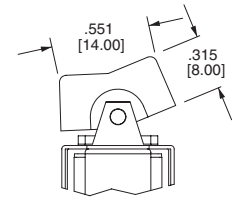
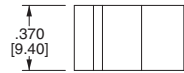
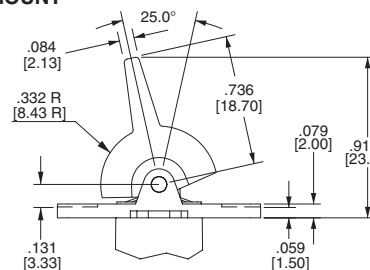
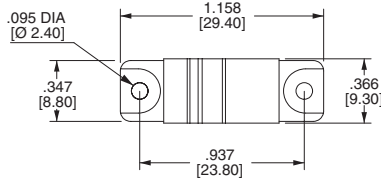
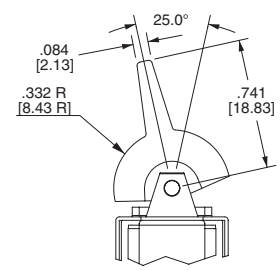
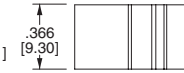
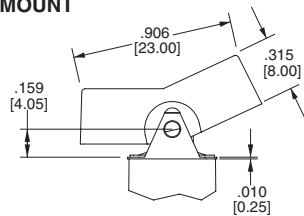
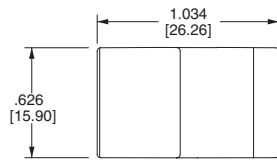
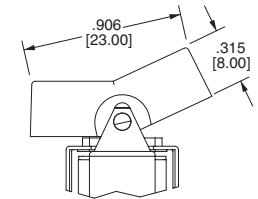
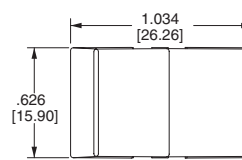
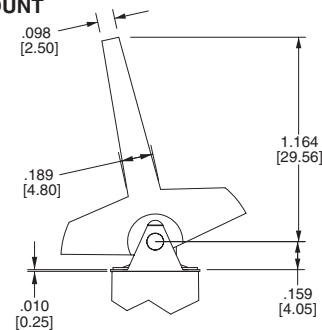
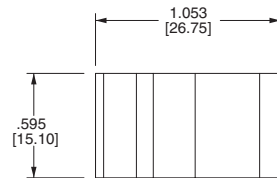
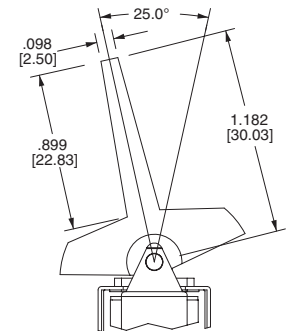
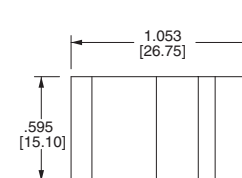
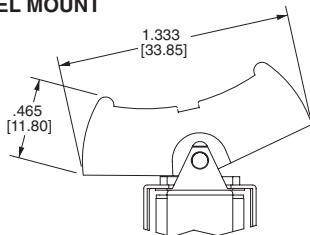
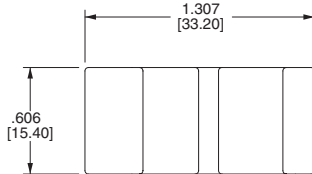
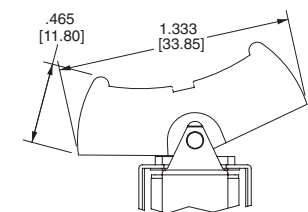
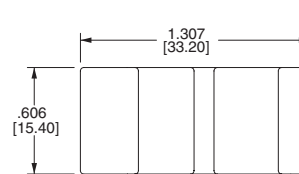
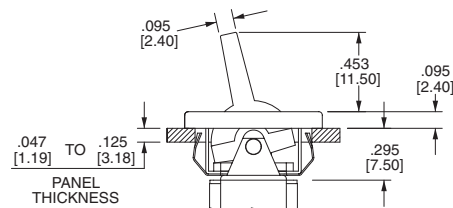
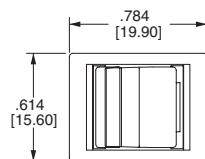
G	Material	Terminal Plating	Rating	Approvals
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<b>K</b>	gold <sup>2</sup>	tin-lead <sup>4</sup>	0.4VA max. @20V max (AC/DC)	-
<b>P</b>	silver <sup>1</sup>	tin-lead <sup>4</sup>	5A@125VAC or 28VDC, 2A @ 250VAC	UL CUL
<b>R</b>	gold <sup>2</sup>	gold <sup>2</sup>	0.4VA max. @20V max (AC/DC)	-

NOTE:  
 Tin-lead option available with PC type terminations only.  
 1 Moveable contact & terminals: copper alloy, silver plate  
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 3 Terminals: silver plate with outer layer in gold plating  
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**7 EPOXY SEAL**  
**E** epoxy seal

**1M1-Series Dimensional Specifications: in.[mm]**
**ACTUATOR**


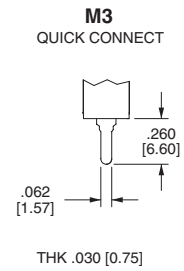
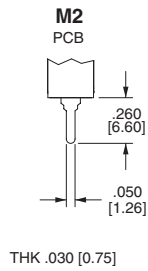
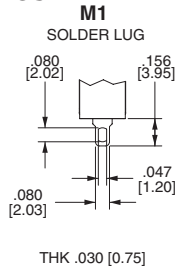
R8 and R9 are without frame. Actuators are as shown.

**1MS-Series Dimensional Specifications: in.[mm]**
**ACTUATOR**
**R1 REAR PANEL MOUNT**

**PC MOUNTING**

**R2 REAR PANEL MOUNT**

**PC MOUNTING**

**R3 REAR PANEL MOUNT**

**PC MOUNTING**

**R4 REAR PANEL MOUNT**

**PC MOUNTING**

**R5 REAR PANEL MOUNT**

**PC MOUNTING**

**R7 SNAP-IN**


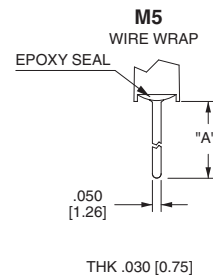
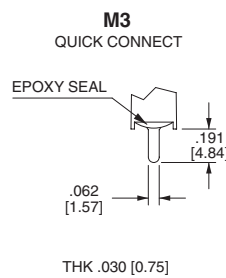
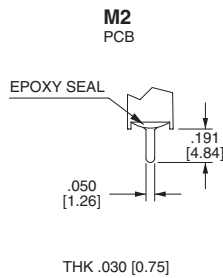
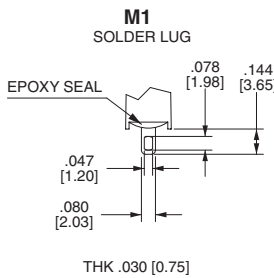
**1M-Series Dimensional Specifications: in.[mm]**

**TERMINATION**

**1M1-Series**



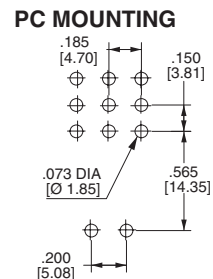
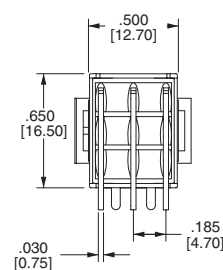
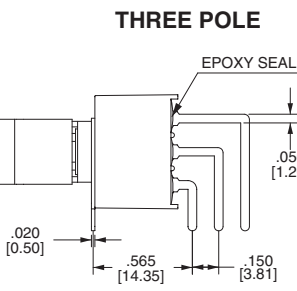
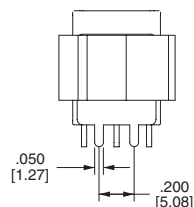
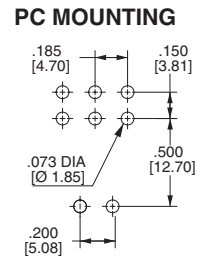
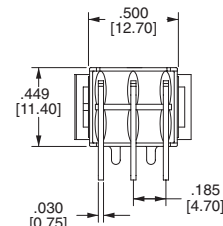
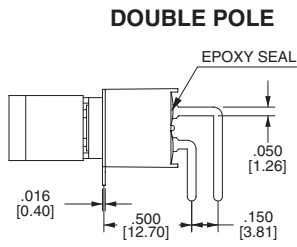
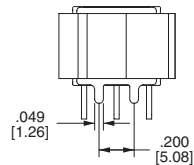
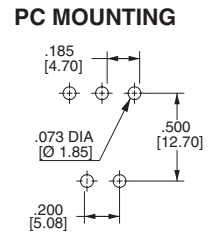
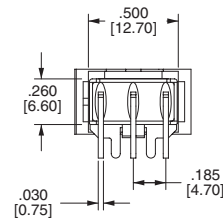
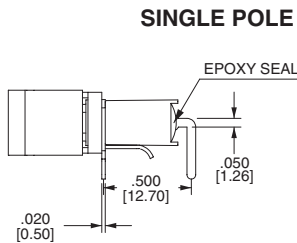
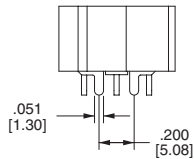
**1MS-Series**



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]

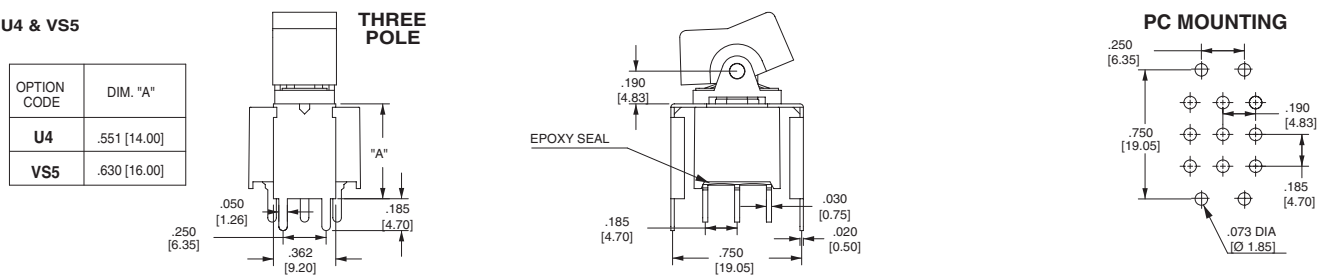
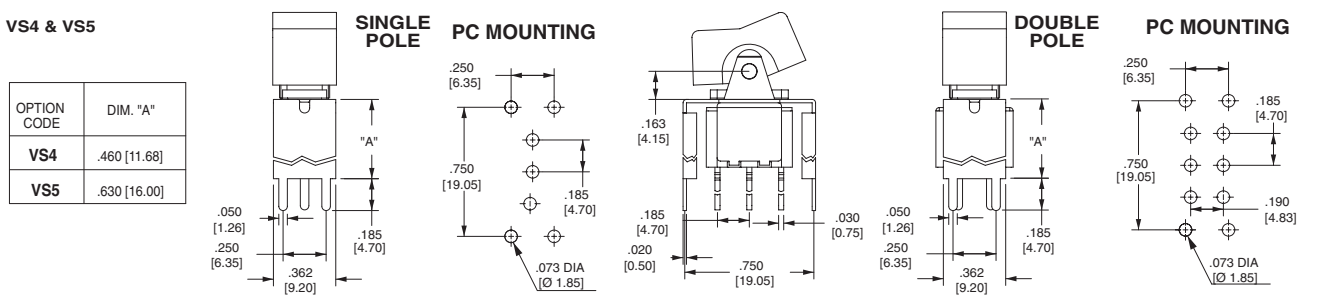
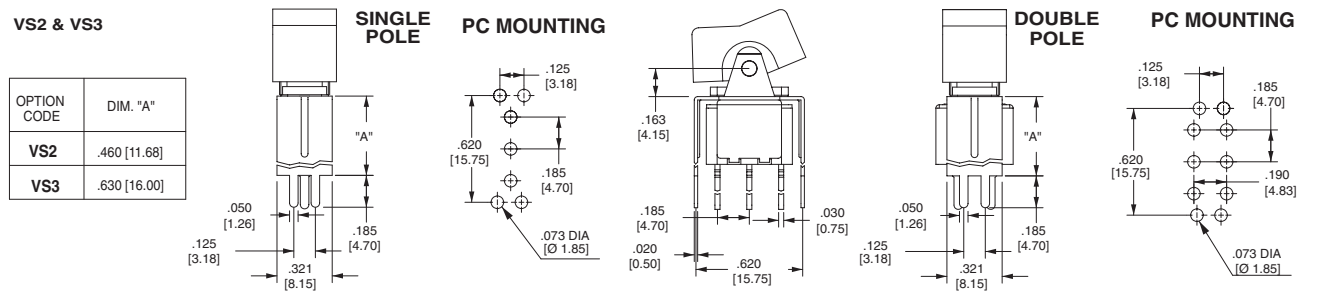
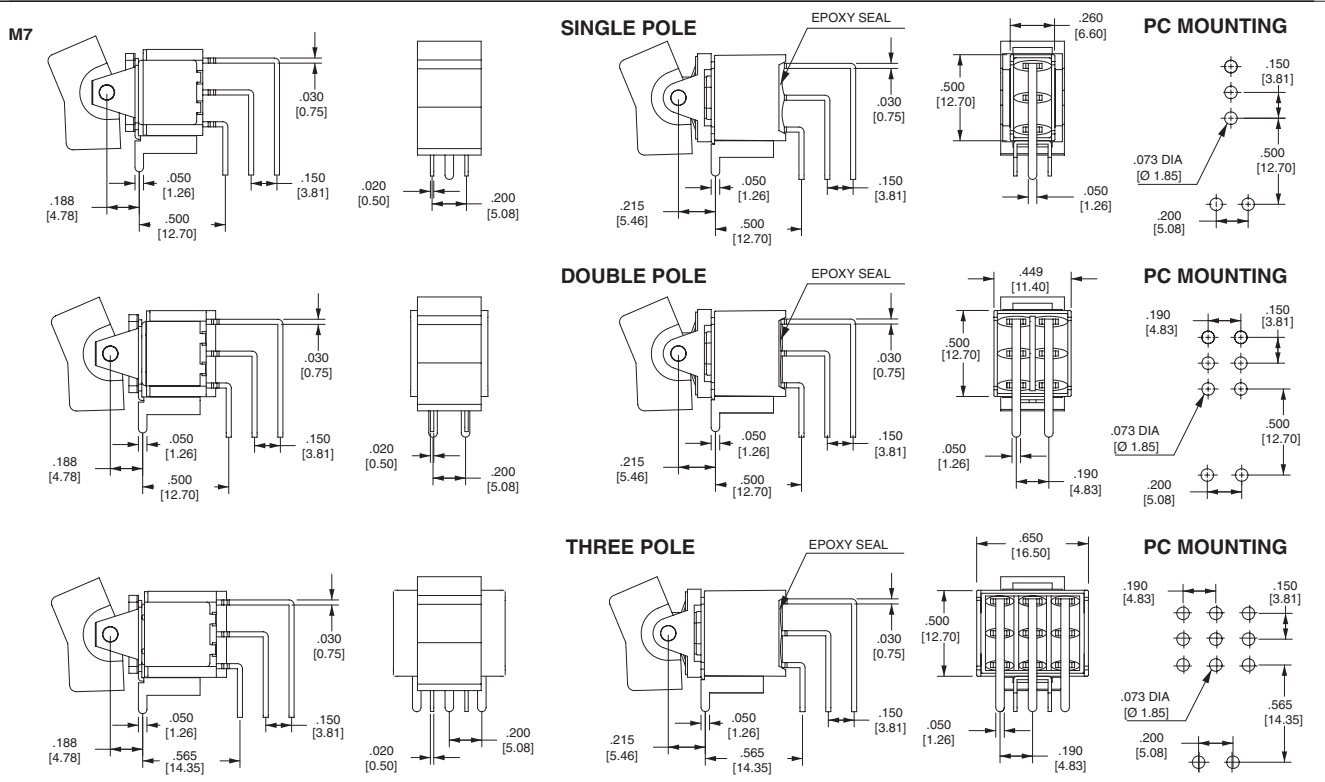
**1M-Series**

M6



## 1M-Series Dimensional Specifications: in.[mm]

### TERMINATION



Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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Факс: 8 (812) 320-03-32

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