



SPECIFICATIONS

CONTACT RATING: Dependent upon contact material See Page 55.

MECHANICAL LIFE: 40,000 make-and-break cycles.

CONTACT RESISTANCE: 10 mΩ max. initial @ 2-4VDC
100mA for both silver and gold plated contacts.

INSULATION RESISTANCE: 1,000 MΩ min.

DIELECTRIC STRENGTH: 1,000 Vrms min. @ sea level.

OPERATING TEMPERATURE: -30°C to 85°C.

MATERIALS

CASE: Diallyl phthalate (DAP) (UL94v-0).

ACTUATOR: Nylon, black std.

BUSHING: Brass or Zinc, nickel plated.

HOUSING: Stainless Steel.

SWITCH SUPPORT: Brass, tin plated.

TERMINAL/CONTACT: Brass, with silver or gold plated.

(See Page 55)



HOW TO ORDER

MODEL NO. ACTUATOR FRAME COLOR ACTUATOR COLOR CAP MARKING TERMINATIONS CONTACT MATERIAL SEAL RoHS SOLDERING

See below

<p>Model NO.</p> <p>3MS1 SP On-None-On 3MS2 SP On-None-Mom. 3MS3 SP On-Off-On 3MS4 SP Mom.-Off-Mom. 3MS5 SP On-Off-Mom. 3MD1 DP On-None-On 3MD2 DP On-None-Mom. 3MD3 DP On-Off -On 3MD4 DP Mom.-Off-Mom. 3MD5 DP On-Off-Mom. 3MD6 DP On-On-On 3MD7 DP Mom.-On-Mom. 3MD8 DP On-On-Mom. 3M31 3P On-None-On 3M32 3P On-None-Mom. 3M33 3P On-Off-On 3M34 3P Mom.-Off-Mom. 3M35 3P On-Off-Mom. 3M41 4P On-None-On 3M42 4P On-None-Mom. 3M43 4P On-Off-On 3M44 4P Mom.-Off-Mom. 3M45 4P On-Off-Mom. 3M46 4P On-On-On 3M47 4P Mom.-On-Mom. 3M48 4P On-On-Mom.</p>	<p>Actuator</p> <p>R1 13.49 long rocker - support R2 Lever - support R3 23.01 long rocker - support R4 Lever - support R5 33.48 long rocker - support R6 Rocker with frame R6K Rocker with frame, snap-in R7 Lever with frame R7K Lever with frame, snap-in R8 Lever with frame R9 Lever with frame R11 9.19 long rocker - support R12 Lever - support R13 Lever - support R16 Lever - support R17 Rocker with frame for LED, snap-in R18 Lever with frame for LED, snap-in RB 17.75 long rocker - support</p> <p>P.C. Mount only</p> <p>J1 13.49 long rocker J2 Lever J3 23.01 long rocker J4 Lever J5 9.19 long rocker J6 Lever J7 Lever J8 Lever JB 17.75 long rocker</p>	<p>Cap marking</p> <table border="1"> <tr><td>1</td><td></td></tr> <tr><td>2</td><td></td></tr> <tr><td>5</td><td></td></tr> <tr><td>6</td><td></td></tr> <tr><td>7</td><td></td></tr> <tr><td>8</td><td></td></tr> <tr><td>L</td><td></td></tr> <tr><td>J</td><td></td></tr> </table>	1		2		5		6		7		8		L		J		<p>Terminations</p> <p>M1 Solder Lug M2 PC thru-hole M3 Quick Connect M5-1 18.70 high, wire wrap M5-2 24.20 high, wire wrap M5-3 10.55 high, wire wrap M5-4 26.97 high, wire wrap M6 Right angle, PC thru-hole M6N Right angle, snap-in, PC thru-hole M7 Vertical right angle, PC thru-hole M7N Vertical right angle, snap-in, PC thru-hole VS2 11.68 high, V-bracket V2N 11.68 high, snap-in V-bracket VS3 16.00 high, V-bracket VS4 11.68 high, V-bracket VS5 16.00 high, V-bracket</p>	<p>Contact material</p> <p>Q Silver R Gold G Gold, tin-lead S Silver, tin-lead C Gold over silver K Gold over silver, tin-lead</p>	<p>Seal</p> <p>E EPOXY (std) N NO EPOXY</p>	<p>RoHS soldering</p> <p><input type="checkbox"/> RoHS Compliant <input type="checkbox"/> RoHS & Lead Free <input type="checkbox"/> Halogen Free+RoHS</p>
1																						
2																						
5																						
6																						
7																						
8																						
L																						
J																						

Frame/Actuator Color

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



SWITCH FUNCTION

NO. POLES	UL/CSA MODEL NO.	MODEL NO.	SWITCH FUNCTION			CONNECTED TERMINALS / SCHEMATIC		
			POS.1	POS.2	POS.3	POS.1	POS.2	POS.3
SP	Q1311	3MS1	ON	NONE	ON		N/A	2-1
	Q1312	3MS2	ON	NONE	MOM			
	Q1313	3MS3	ON	OFF	ON			
	Q1314	3MS4	MOM	OFF	MOM			
	Q1315	3MS5	ON	OFF	MOM			
DP	Q1321	3MD1	ON	NONE	ON		N/A	2-1,5-4
	Q1322	3MD2	ON	NONE	MOM			
	Q1323	3MD3	ON	OFF	ON			
	Q1324	3MD4	MOM	OFF	MOM			
	Q1325	3MD5	ON	OFF	MOM			
	▲ Q1326	3MD6	ON	ON	ON			
	▲ Q1327	3MD7	MOM	ON	MOM			
	▲ Q1328	3MD8	ON	ON	MOM			
3P	Q1331	3M31	ON	NONE	ON		N/A	2-1,5-4,8-7
	Q1332	3M32	ON	NONE	MOM			
	Q1333	3M33	ON	OFF	ON			
	Q1334	3M34	MOM	OFF	MOM			
	Q1335	3M35	ON	OFF	MOM			
4P	Q1341	3M41	ON	NONE	ON		N/A	2-1,5-4,8-7,11-10
	Q1342	3M42	ON	NONE	MOM			
	Q1343	3M43	ON	OFF	ON			
	Q1344	3M44	MOM	OFF	MOM			
	Q1345	3M45	ON	OFF	MOM			
	Q1346	3M46	ON	ON	ON			
	▲ Q1347	3M47	MOM	ON	MOM			
	▲ Q1348	3M48	ON	ON	MOM			

MOM=MOMENTARY

▲ Please check the availability in advance before order

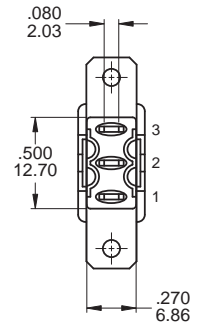
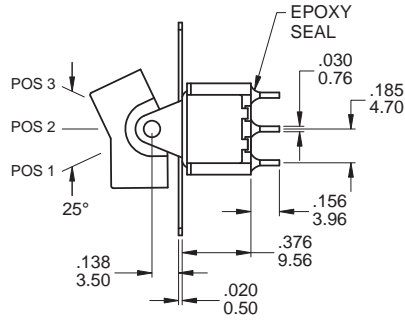
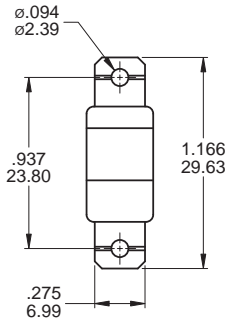


3M
Miniature Rocker & Paddle Switches

POLE OPTIONS

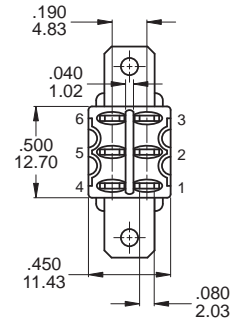
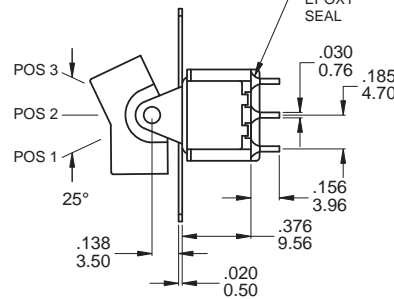
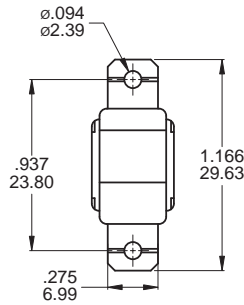
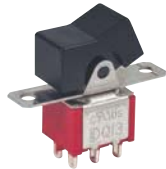


3M
Rocker Switches



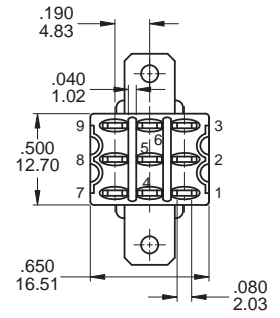
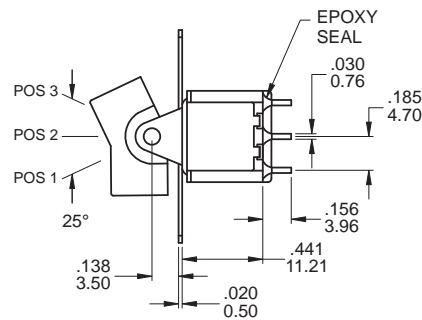
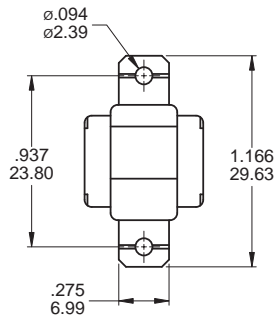
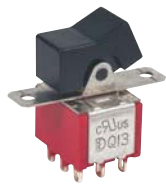
SPDT

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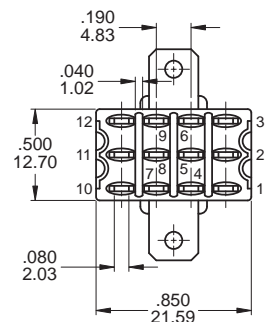
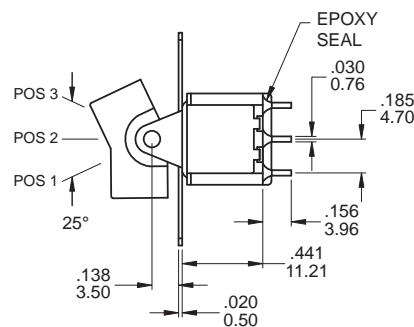
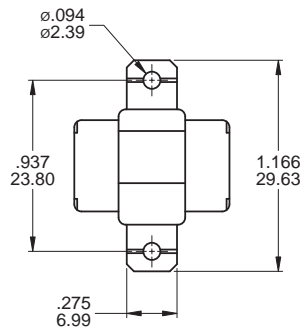
DPDT

Part No. Shown : 3MD1R102M1QE



3PDT

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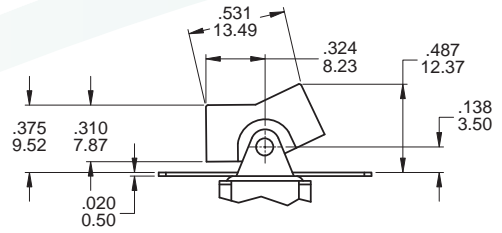
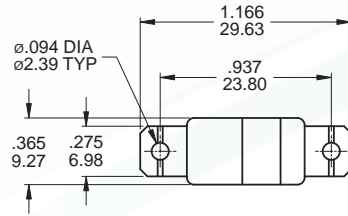


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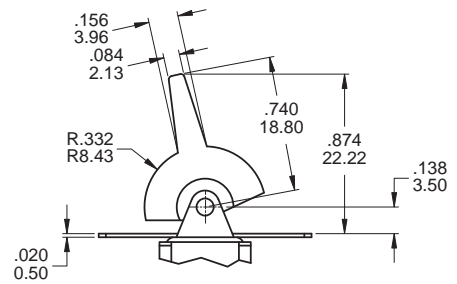
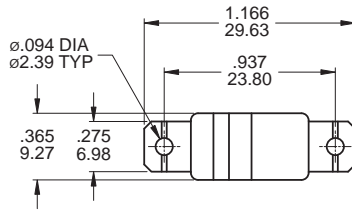
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ACTUATOR OPTIONS FOR PANEL MOUNT ONLY

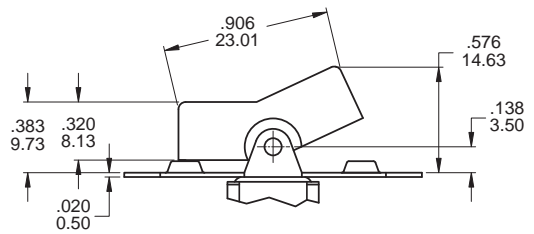
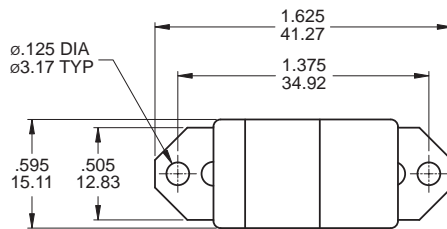
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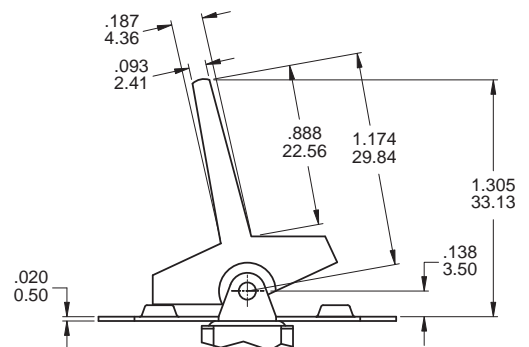
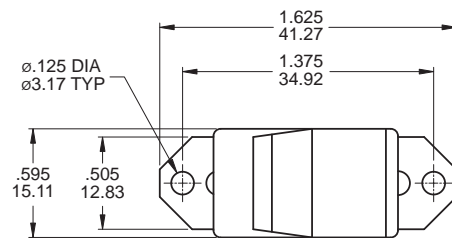
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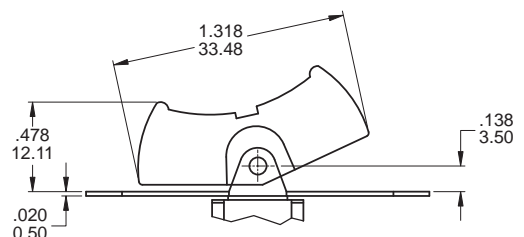
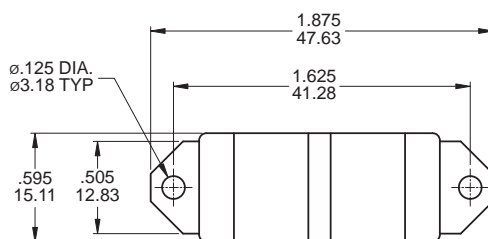
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R4

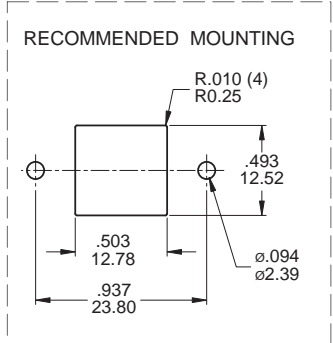
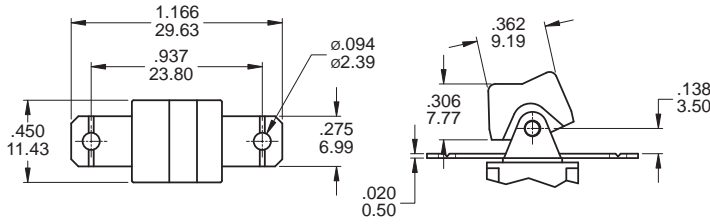


R5

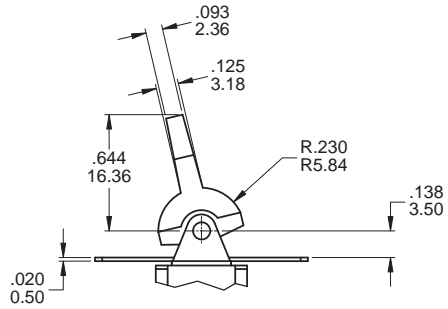
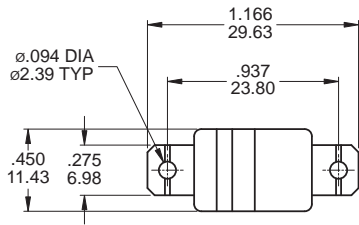


ACTUATOR OPTIONS SNAP-IN FRONT MOUNT

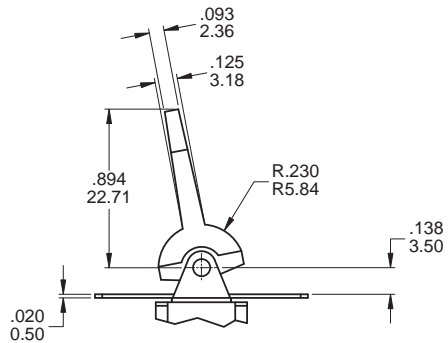
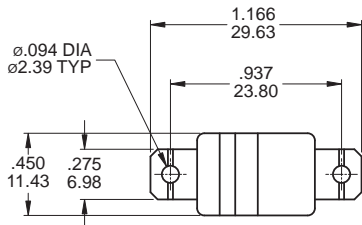
R11



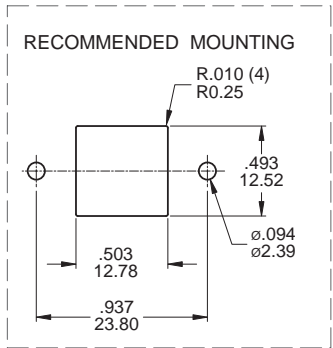
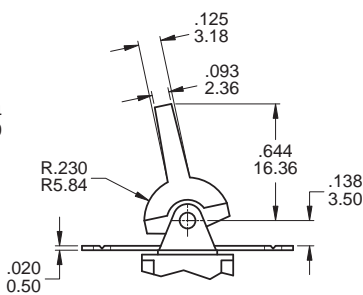
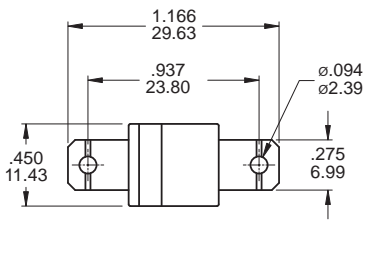
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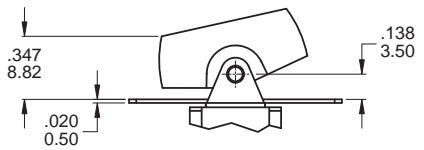
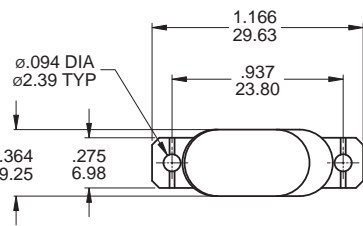
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R16



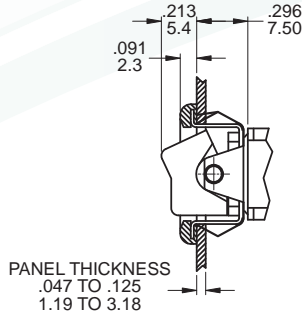
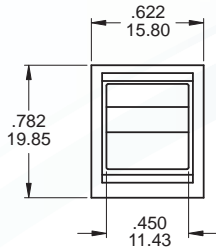
RB



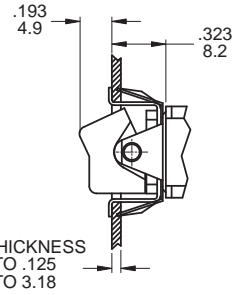
3M
Rocker Switches

ACTUATOR OPTIONS SNAP-IN FRONT MOUNT

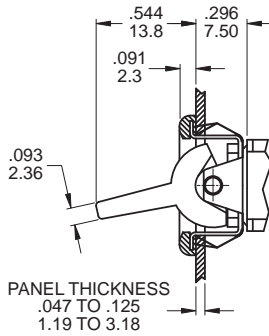
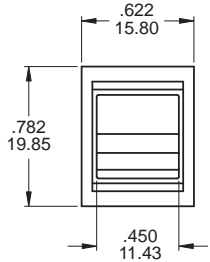
R6



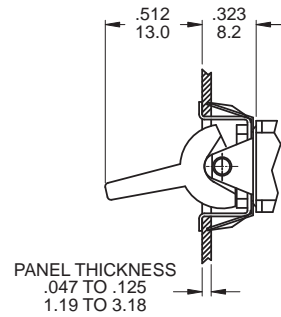
R6K



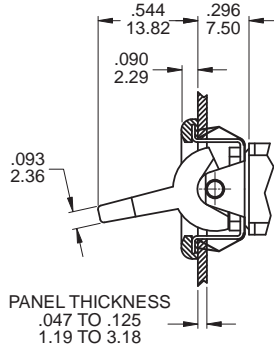
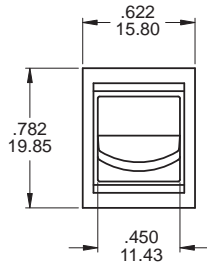
R7



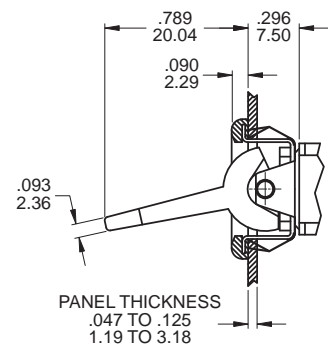
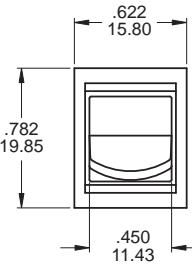
R7K



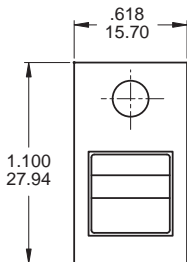
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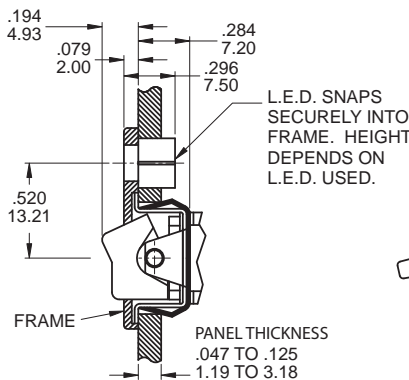
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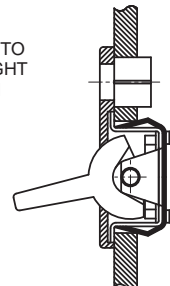
R18



▲R17



▲R18



CAP and FRAME colors

OPTION CODE	COLOR
1	WHITE
2	BLACK (std)
3	RED

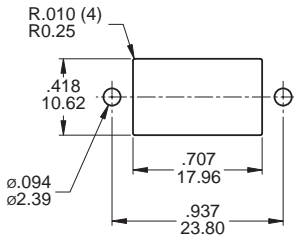
LED colors

OPTION CODE	COLOR
R	RED (std)
O	ORANGE
G	GREEN

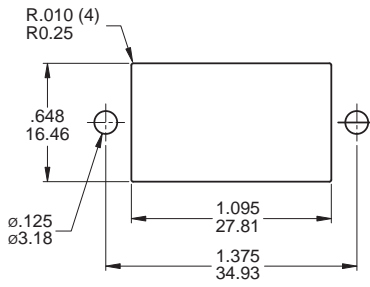


PANEL MOUNTING

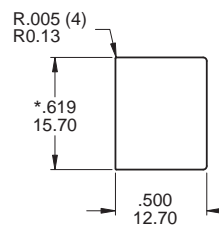
For R1-R2



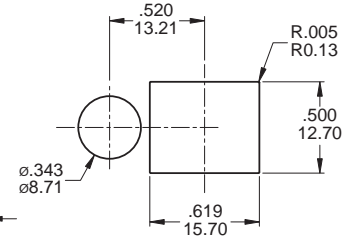
For R3-R4



For R6-R9



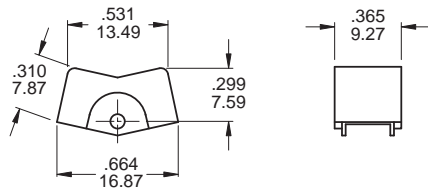
For R17-R18



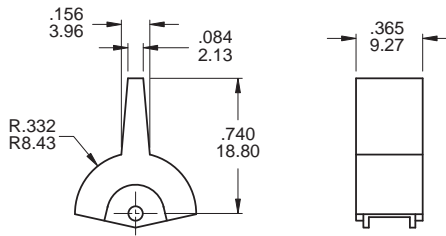
* For R6 and R7: Increase this dim. to .620/.625(15,75/15,88) for .060/.125 (1,52/3,18) thk. panels.
 * For R8 and R9: Increase this dim. to .620/.625(15,75/15,88) for .091/.125 (2,31/3,18) thk. panels.

ACTUATOR OPTIONS FOR P.C. MOUNT ONLY

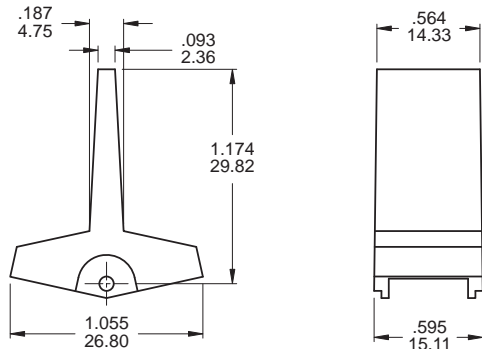
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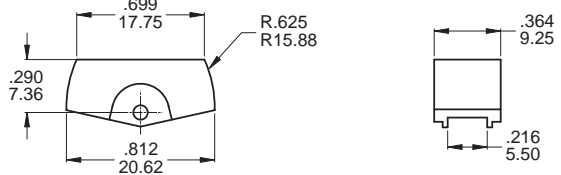
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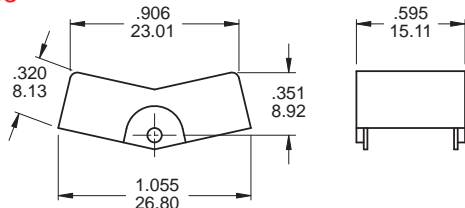
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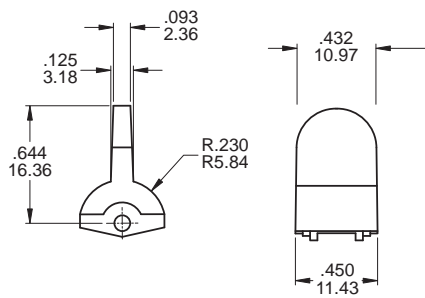
JB



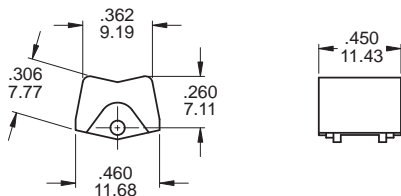
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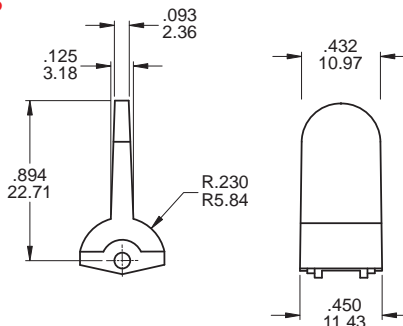
J7



J5



J8



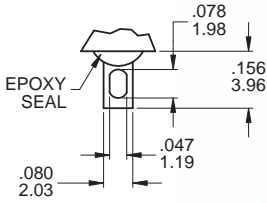
Actuator and Frame colors:

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



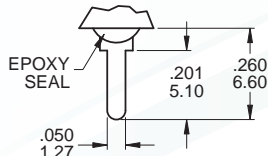
TERMINATION OPTIONS

M1 Solder lug



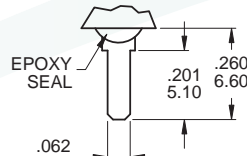
THK .030(0.76)

M2 PC Thru-hole



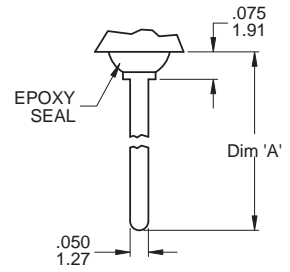
THK .030(0.76)

M3 Quick connect



THK .030(0.76)

M5 Wire Wrap



THK .030(0.76)

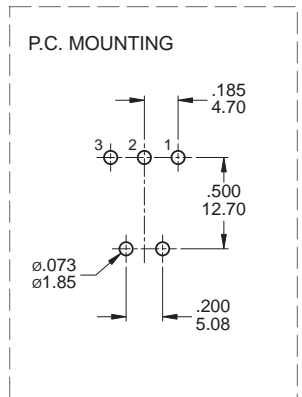
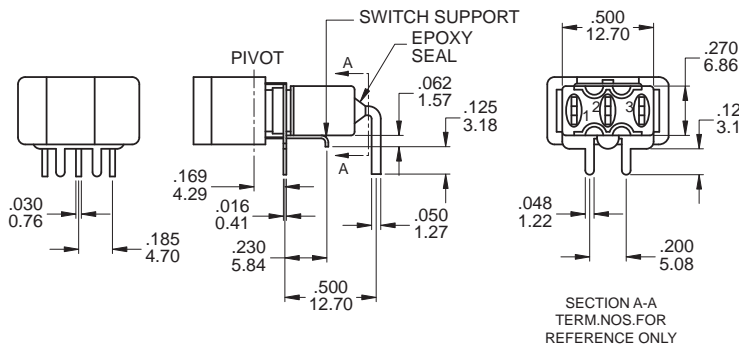
OTHER TERMINATION OPTIONS

- M6** RIGHT ANGLE P.C. MOUNT
- M7** RIGHT ANGLE P.C. MOUNT
- VS2** VERTICAL BRACKET P.C. MOUNT
- VS3** VERTICAL BRACKET P.C. MOUNT
- VS4** VERTICAL BRACKET P.C. MOUNT
- VS5** VERTICAL BRACKET P.C. MOUNT

OPTION CODE	DIM. 'A'
M5-1	.736 (18.70)
M5-2	.953 (24.20)
M5-3	.415 (10.55)
M5-4	1.062 (26.97)

* Shown with J1 Actuator

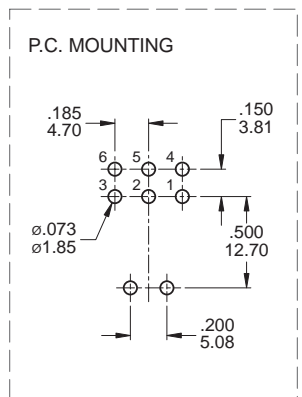
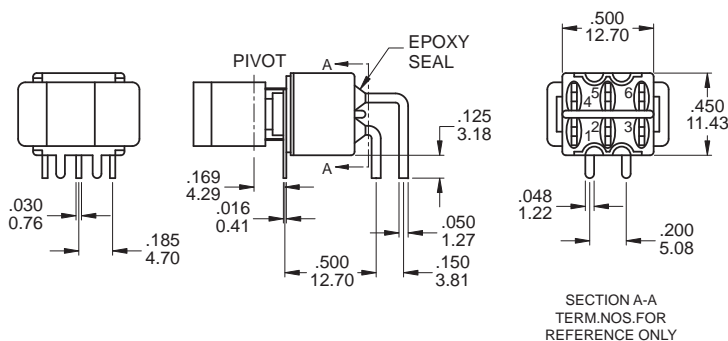
M6



SPDT

Part No. Shown : 3MS1J102M6QE

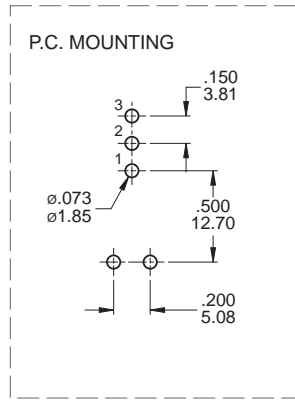
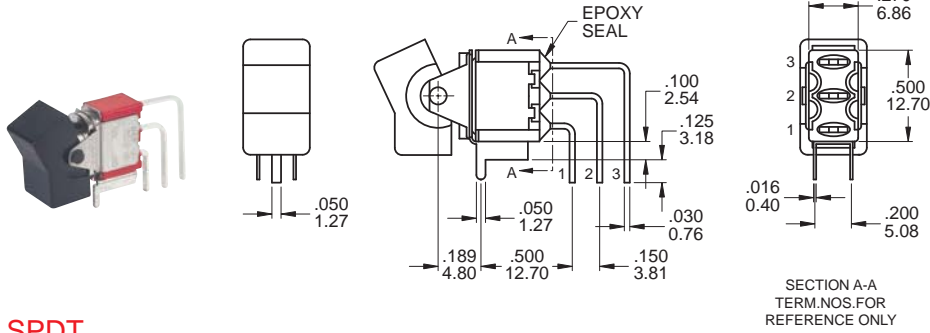
M7



DPDT

Part No. Shown : 3MD1J102M6QE

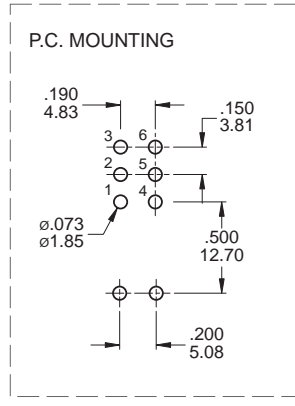
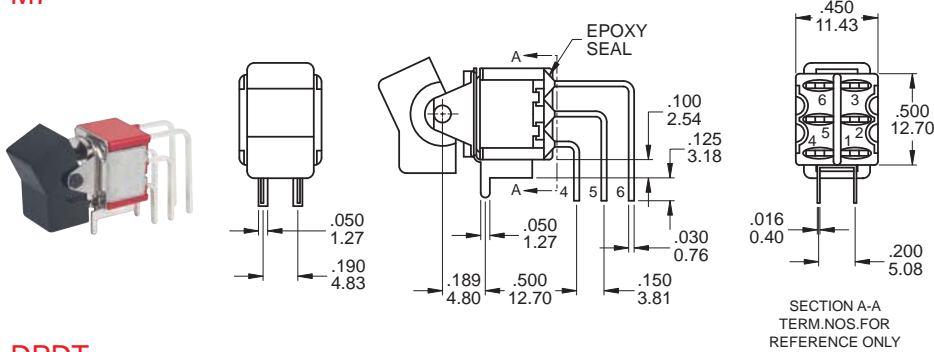
M7



SPDT

Part No. Shown : 3MS1J102M7QE

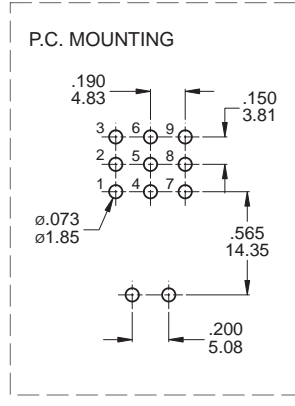
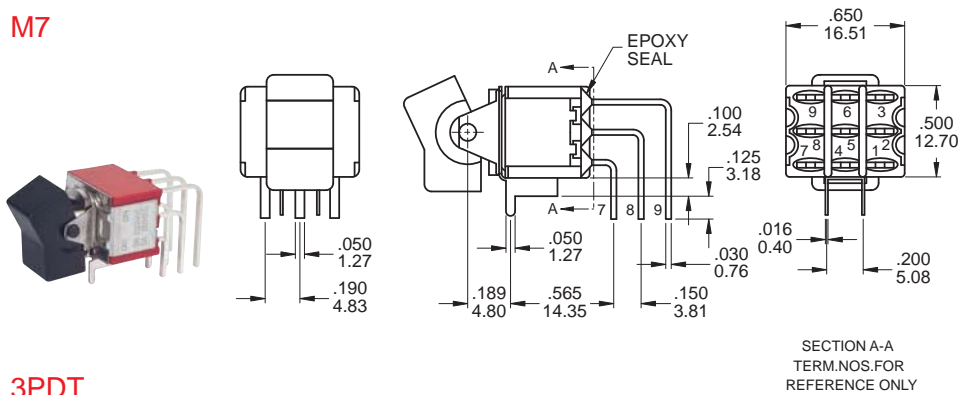
M7



DPDT

Part No. Shown : 3MD1J102M7QE

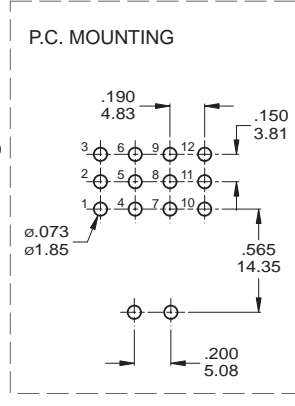
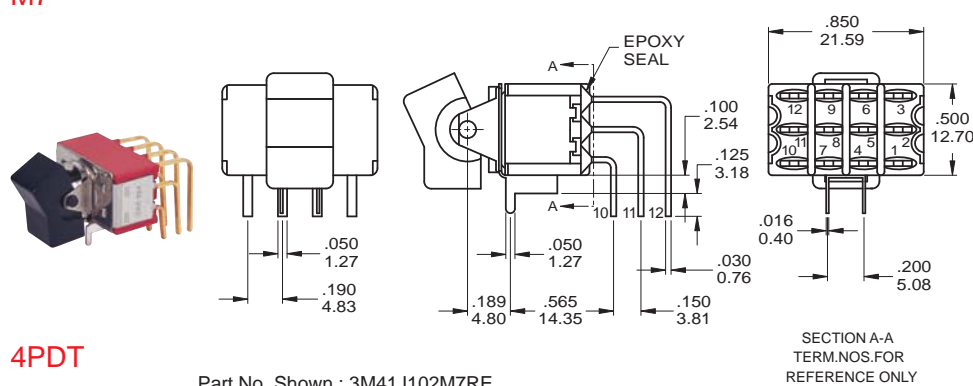
M7



3PDT

Part No. Shown : 3M31J102M7QE

M7



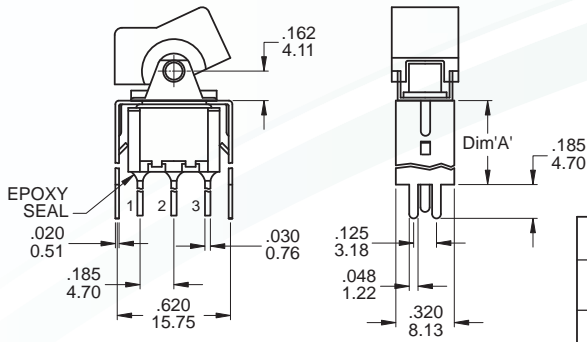
4PDT

Part No. Shown : 3M41J102M7RE



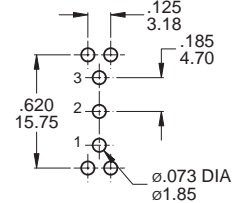
3M
Rocker Switches

VS2 - VS3



OPTION CODE	DIM. 'A'
VS2	.460 11.68
VS3	.630 16.00

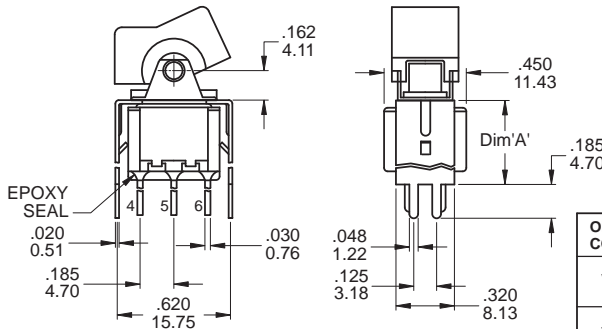
P.C. MOUNTING



SPDT

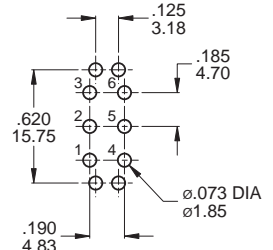
Part No. Shown : 3MS1J102VS2QE

VS2 - VS3



OPTION CODE	DIM. 'A'
VS2	.460 11.68
VS3	.630 16.00

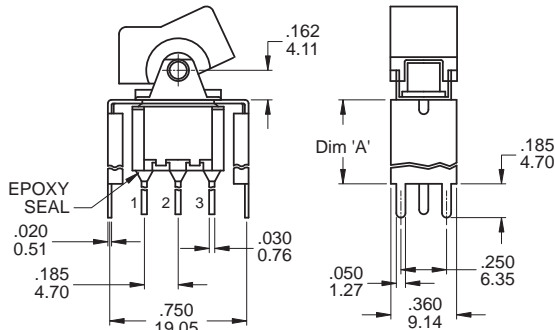
P.C. MOUNTING



DPDT

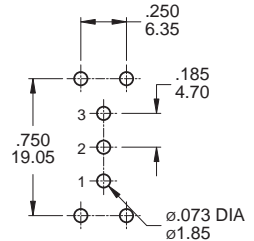
Part No. Shown : 3MD1J102VS2QE

VS4 - VS5



OPTION CODE	DIM. 'A'
VS4	.460 11.68
VS5	.630 16.00

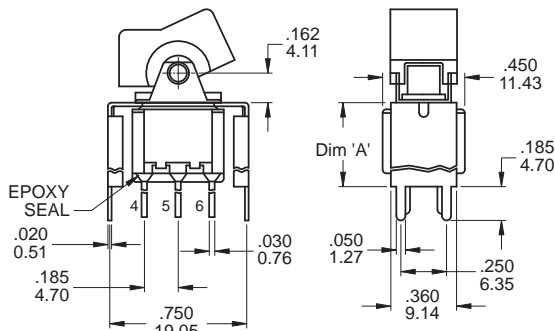
P.C. MOUNTING



SPDT

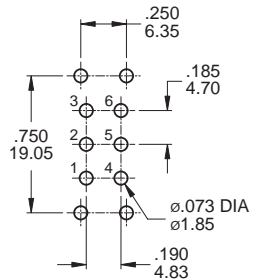
Part No. Shown : 3MS1J102VS4QE

VS4 - VS5



OPTION CODE	DIM. 'A'
VS4	.460 11.68
VS5	.630 16.00

P.C. MOUNTING

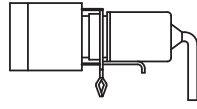
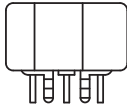


DPDT

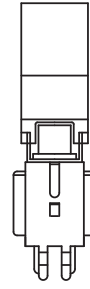
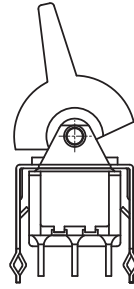
Part No. Shown : 3MD1J102VS5QE

SNAP-IN TERMINATION OPTIONS

M6N



V2N



CONTACT MATERIAL OPTIONS

	CONTACT PLATING	TERMINAL PLATING	RATINGS
Q	Silver	Q = Silver	5 Amps with resistant load @ 120VAC or 28VDC 2 Amps with resistant load @ 250VAC
S		S = Silver,pure - tin	
C	Gold over Silver	C = Gold over silver	0.4 Volt - Amps (VA) max. @ 20V max. (AC or DC)
K		K = Gold over silver,pure - tin	
R	Gold	R = Gold	0.4 Volt - Amps (VA) max. @ 20V max. (AC or DC)
G		G = Gold,pure - tin	

SOLDERING PROCESSES

MANUAL SOLDERING: Use soldering iron of 30 watts, controlled at 350°C approximately 5 seconds while applying solder.

WAVE SOLDERING: Recommended Soldering Temperature: 260 ± 5°C
Duration of Solder Immersion: Max 5 sec. (PCB is 1.6mm in thickness)

