



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

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

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			
	▲ Q1327	3MD7	MOM	ON	MOM			
	▲ Q1328	3MD8	ON	ON	MOM			
	3P	Q1331	3M31	ON	NONE			
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

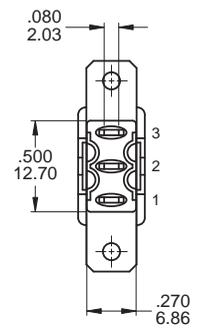
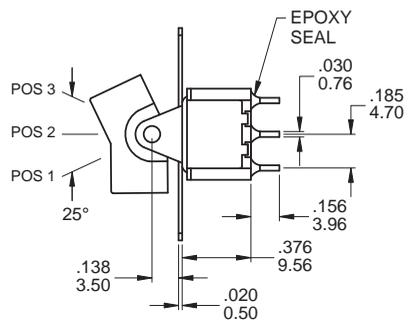
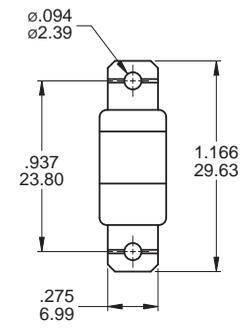


3M
Miniature Rocker & Paddle Switches

POLE OPTIONS

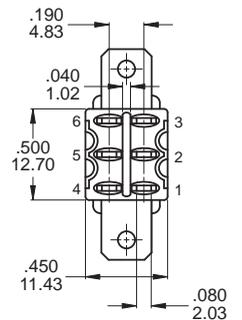
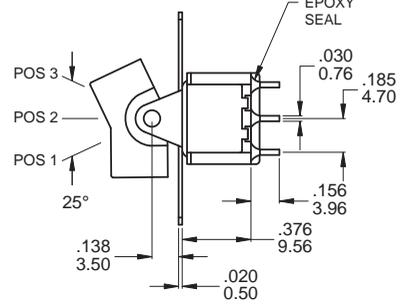
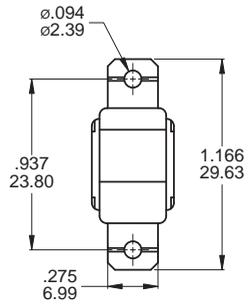


3M
Rocker Switches



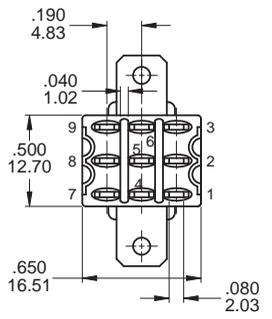
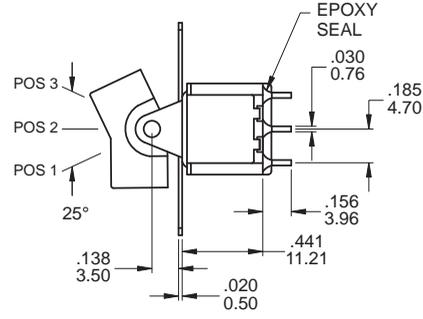
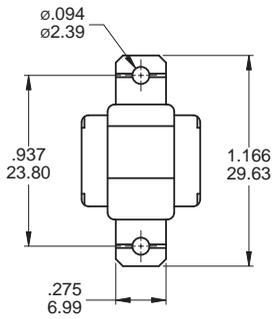
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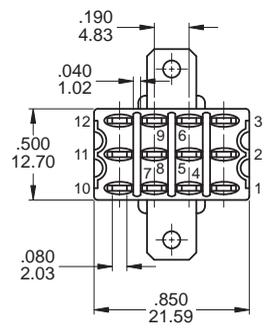
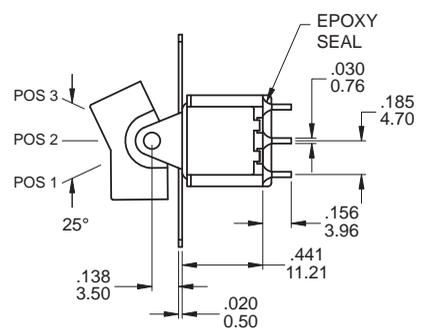
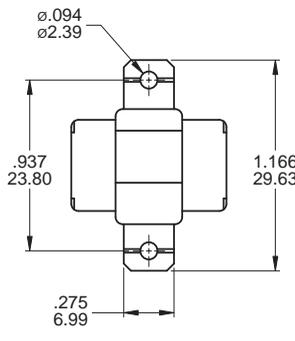
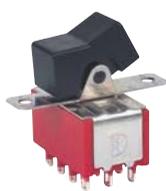
DPDT

Part No. Shown : 3MD1R102M1QE



3PDT

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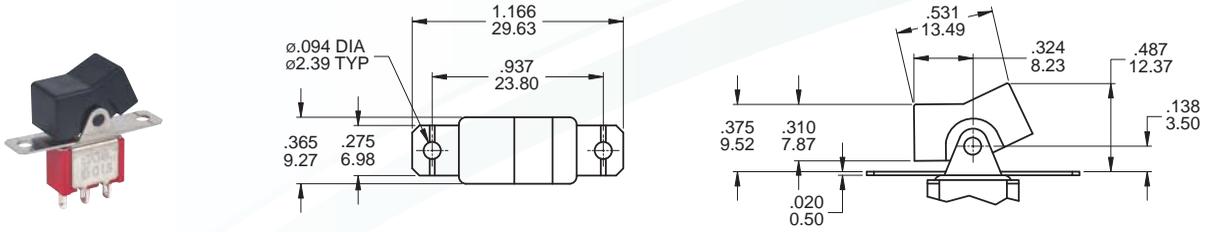


4PDT

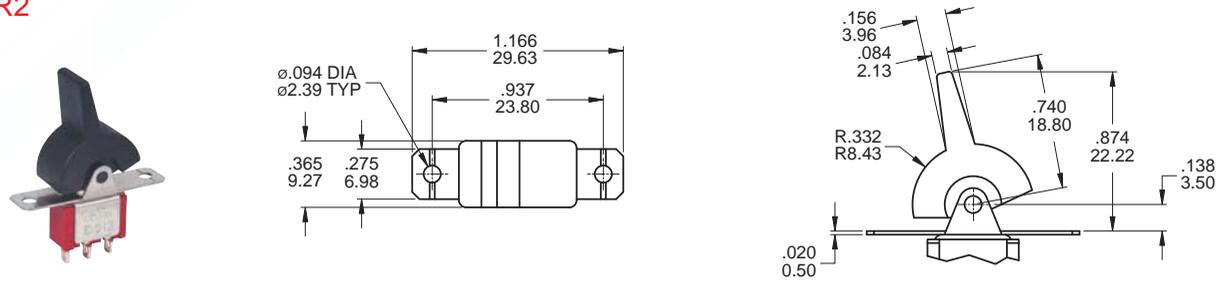
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ACTUATOR OPTIONS FOR PANEL MOUNT ONLY

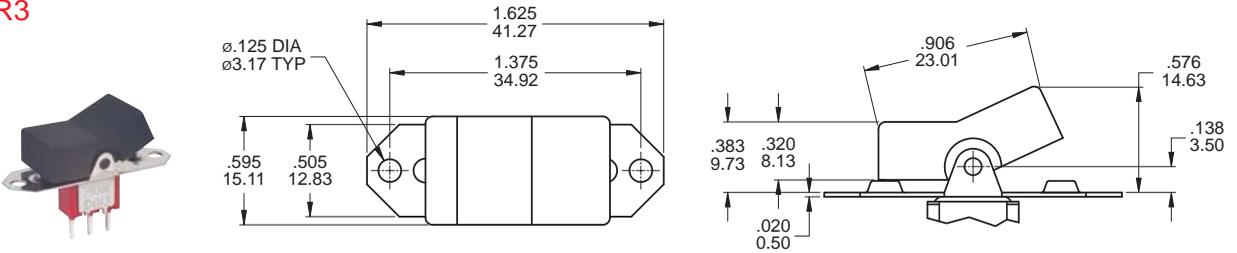
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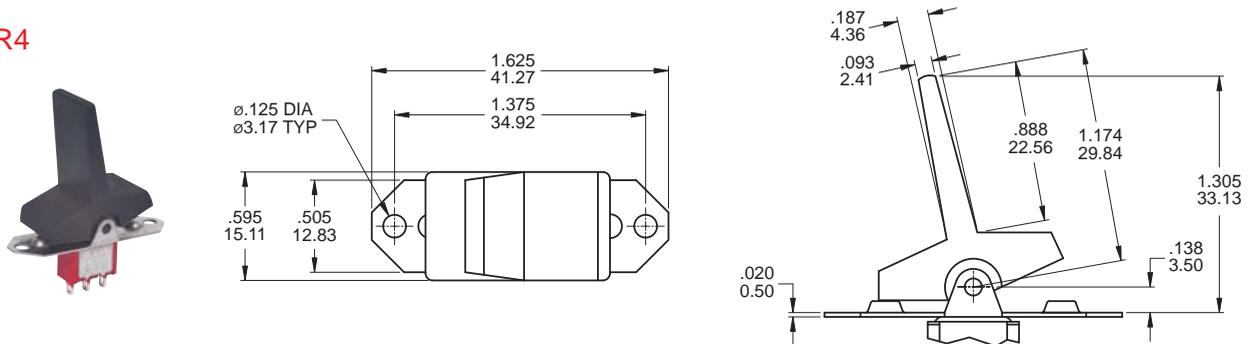
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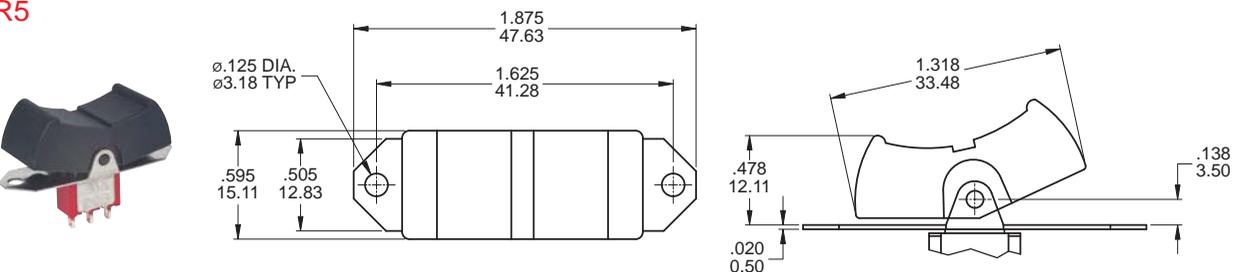
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R4



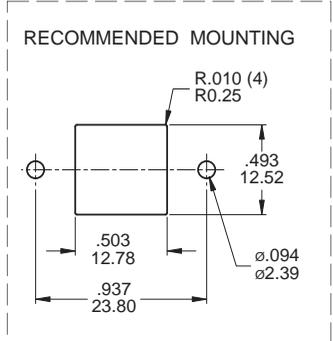
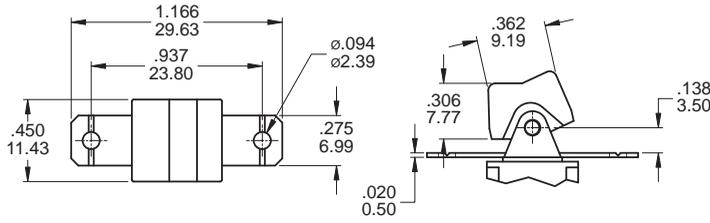
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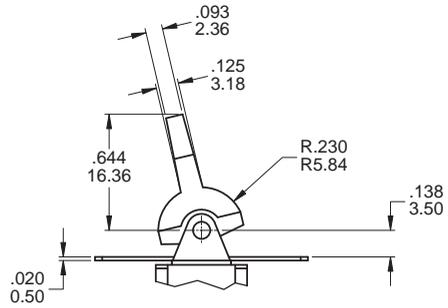
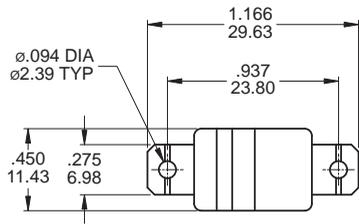
3M
Miniature Rocker & Paddle Switches

ACTUATOR OPTIONS SNAP-IN FRONT MOUNT

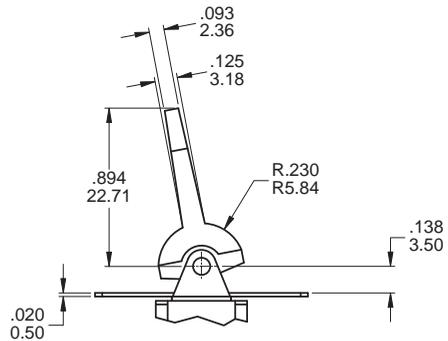
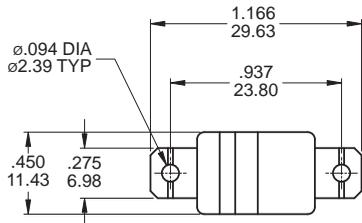
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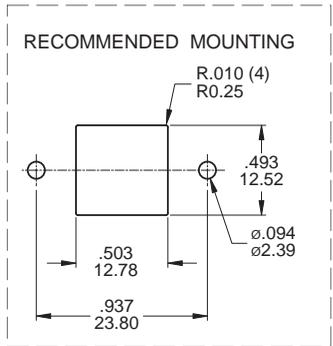
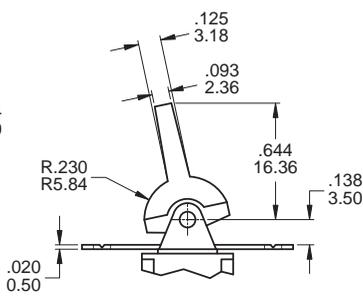
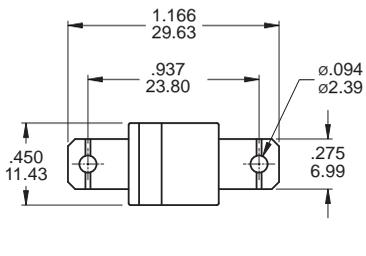
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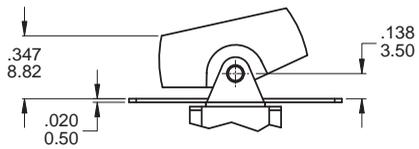
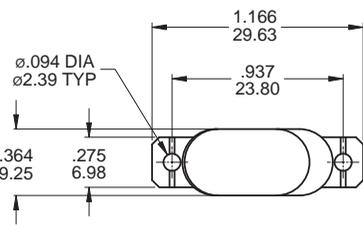
R13



R16



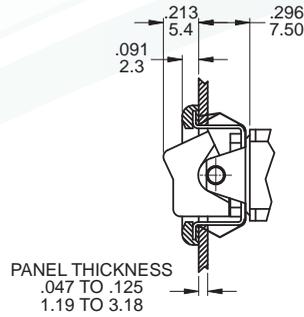
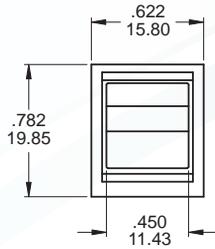
RB



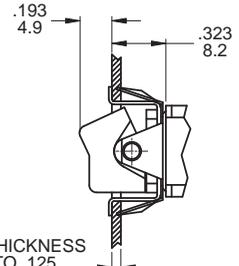
3M
Rocker Switches

ACTUATOR OPTIONS SNAP-IN FRONT MOUNT

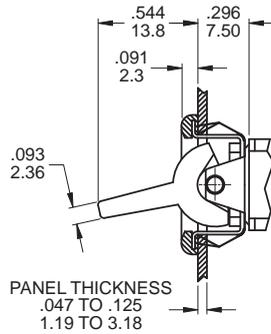
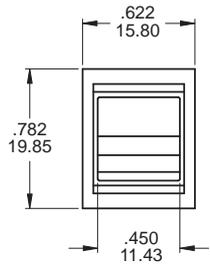
R6



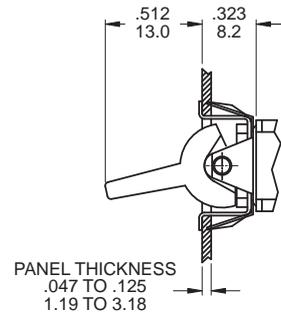
R6K



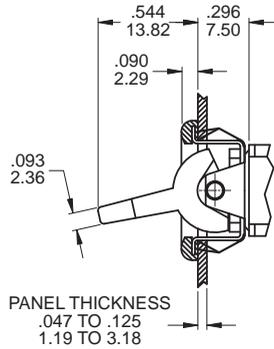
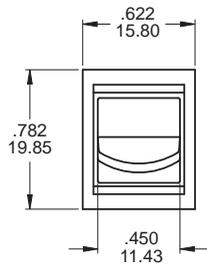
R7



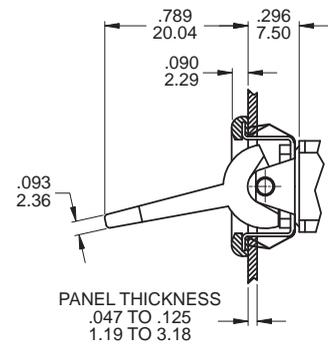
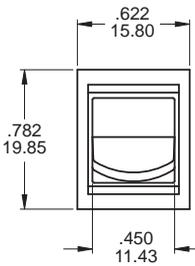
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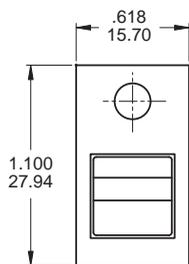
R8



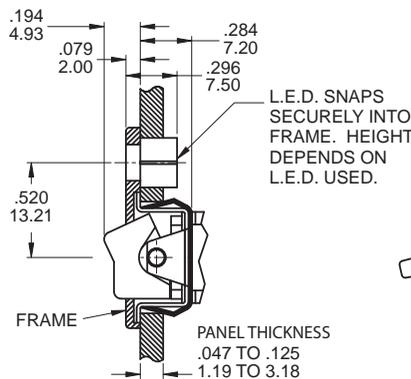
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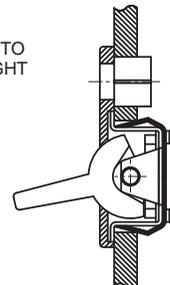
R18



▲R17



▲R18



CAP and FRAME colors

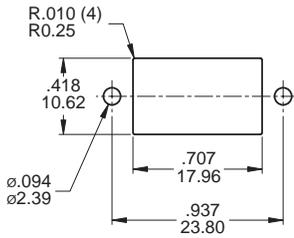
OPTION CODE	COLOR
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2	BLACK (std)
3	RED

LED colors

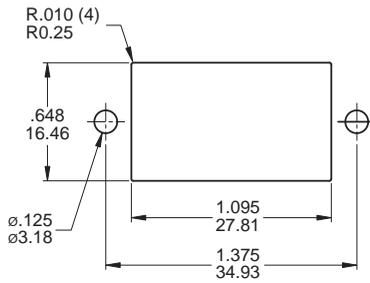
OPTION CODE	COLOR
R	RED (std)
O	ORANGE
G	GREEN

PANEL MOUNTING

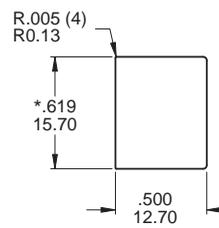
For R1-R2



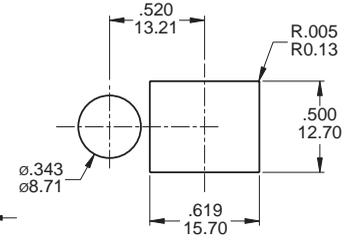
For R3-R4



For R6-R9



For R17-R18

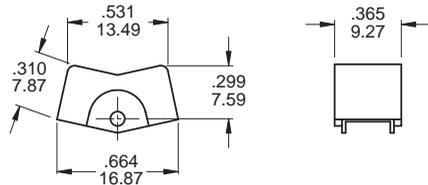


* For R6 and R7: Increase this dim. to .620/.625 (15,75/15,88) for .060/.125 (1,52/3,18) thk. panels.

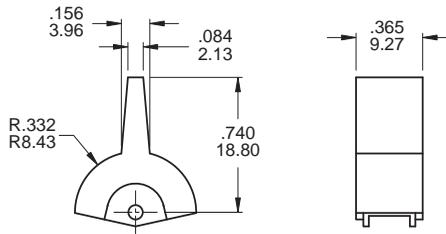
* For R8 and R9: Increase this dim. to .620/.625 (15,75/15,88) for .091/.125 (2,31/3,18) thk. panels.

ACTUATOR OPTIONS FOR P.C. MOUNT ONLY

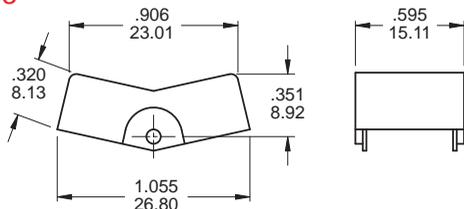
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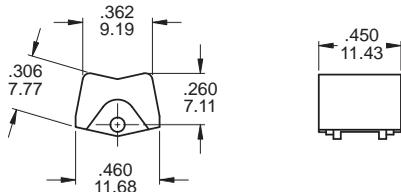
J2



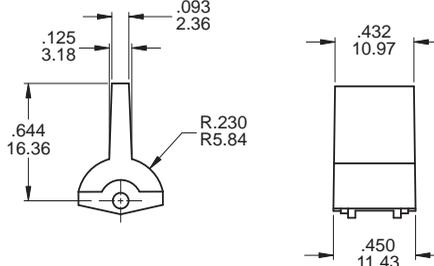
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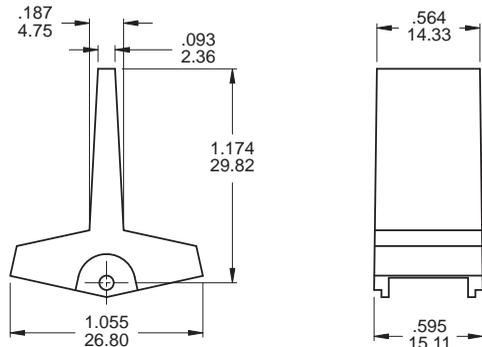
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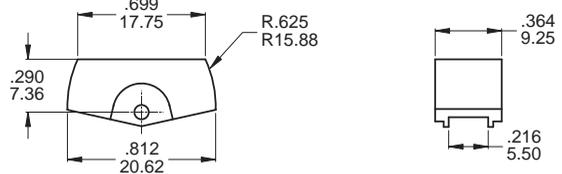
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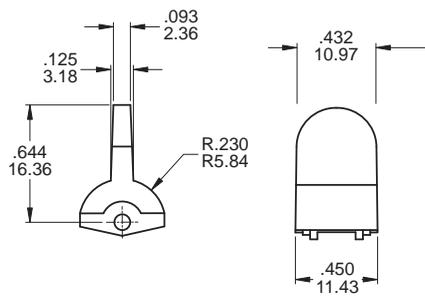
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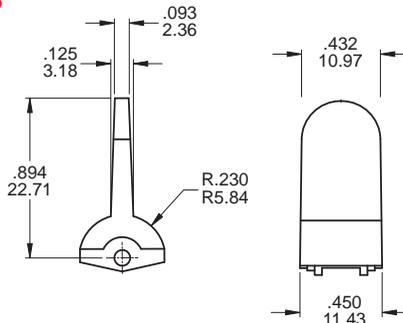
JB



J7



J8



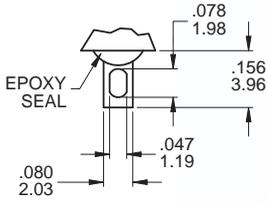
Actuator and Frame colors:

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



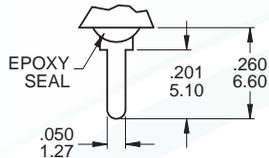
TERMINATION OPTIONS

M1 Solder lug



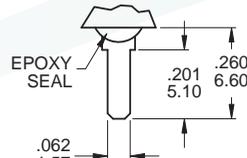
THK .030(0.76)

M2 PC Thru-hole



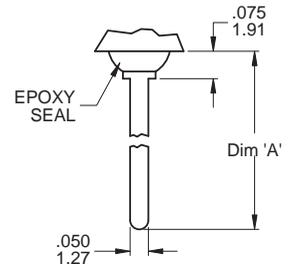
THK .030(0.76)

M3 Quick connect



THK .030(0.76)

M5 Wire Wrap



THK .030(0.76)

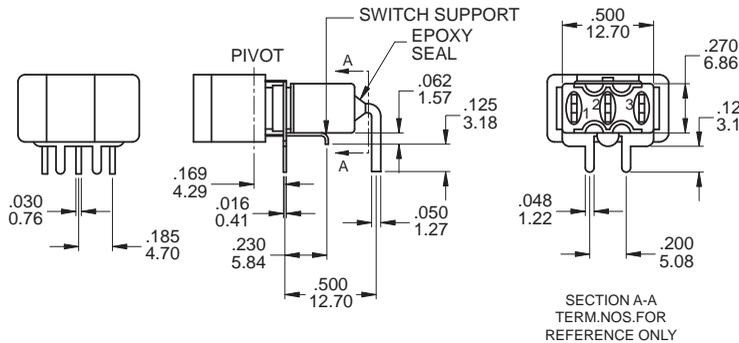
OTHER TERMINATION OPTIONS

- 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

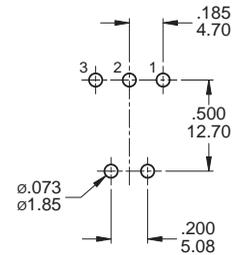
OPTION CODE	DIM. 'A'
M5-1	.736 (18.70)
M5-2	.953 (24.20)
M5-3	.415 (10.55)
M5-4	1.062 (26.97)

* Shown with J1 Actuator

M6



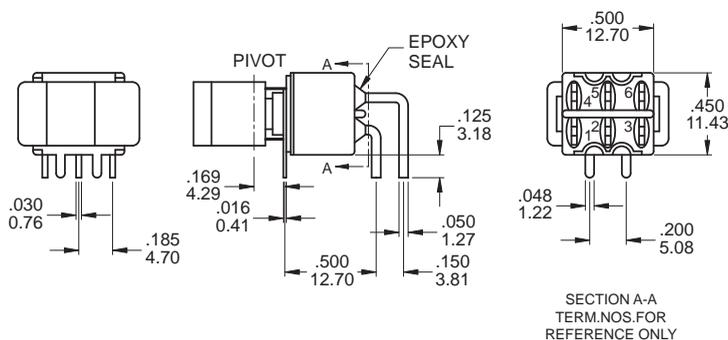
P.C. MOUNTING



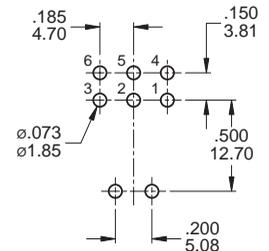
SPDT

Part No. Shown : 3MS1J102M6QE

M7



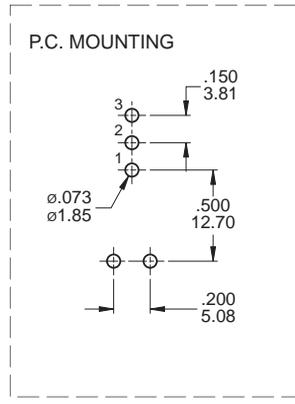
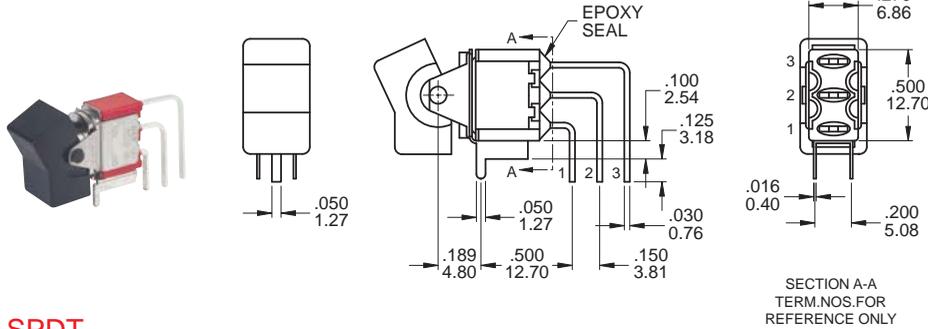
P.C. MOUNTING



DPDT

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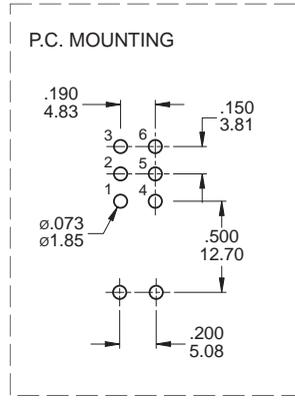
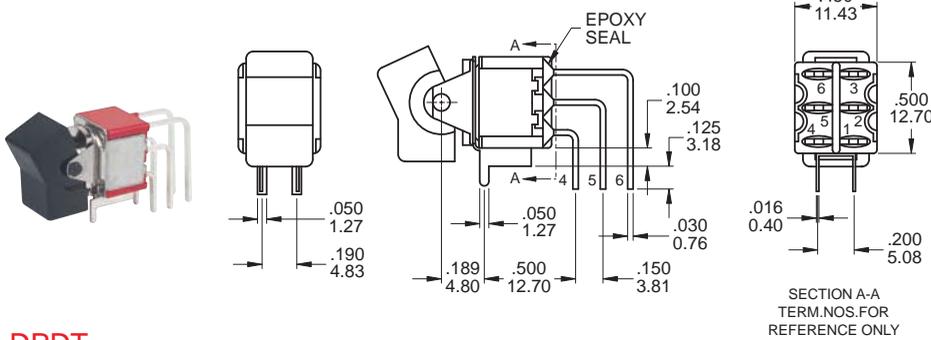
M7



SPDT

Part No. Shown : 3MS1J102M7QE

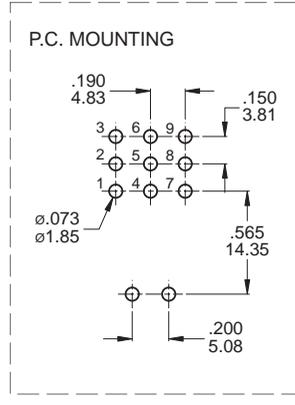
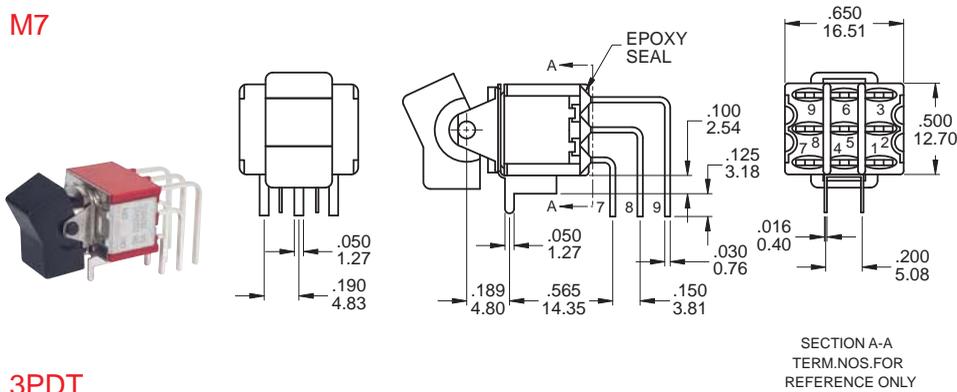
M7



DPDT

Part No. Shown : 3MD1J102M7QE

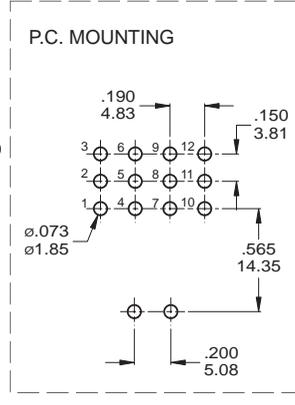
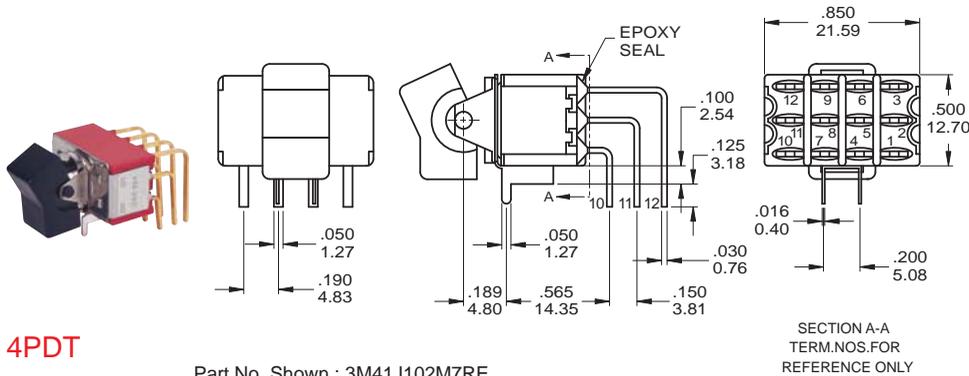
M7



3PDT

Part No. Shown : 3M31J102M7QE

M7



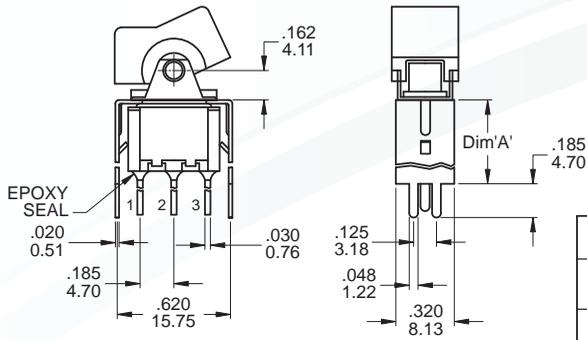
4PDT

Part No. Shown : 3M41J102M7RE



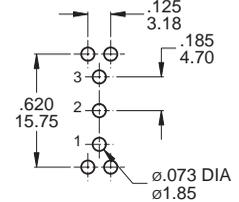
3M
Rocker Switches

VS2 - VS3



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

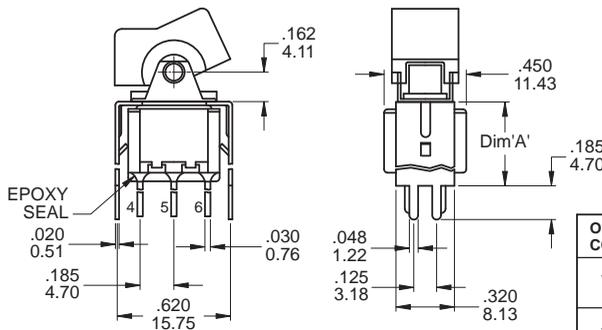
P.C. MOUNTING



SPDT

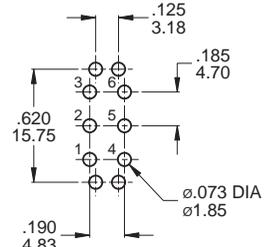
Part No. Shown : 3MS1J102VS2QE

VS2 - VS3



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

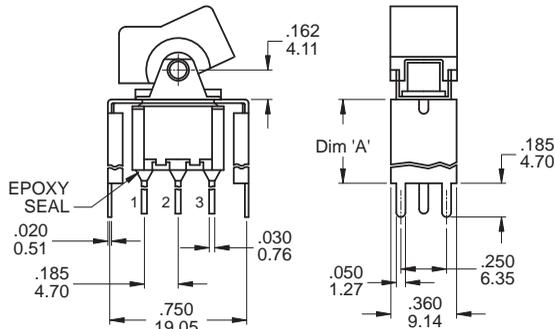
P.C. MOUNTING



DPDT

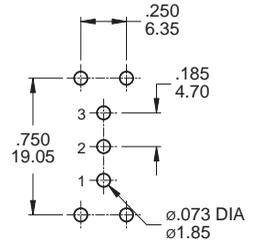
Part No. Shown : 3MD1J102VS2QE

VS4 - VS5



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

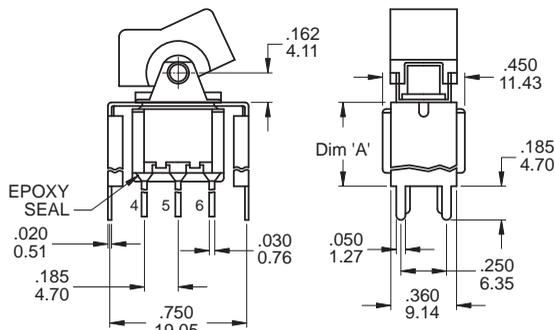
P.C. MOUNTING



SPDT

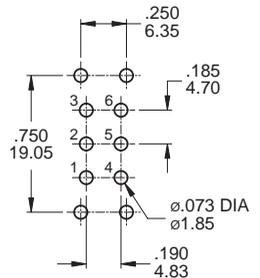
Part No. Shown : 3MS1J102VS4QE

VS4 - VS5



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

P.C. MOUNTING

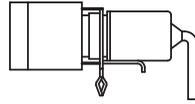
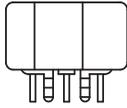


DPDT

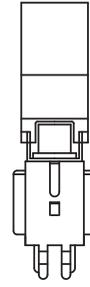
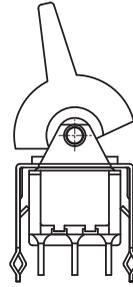
Part No. Shown : 3MD1J102VS5QE

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	
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)

