

7000 Series Miniature Rocker & Lever Handle Switches

Features/Benefits

- Multi-pole and multi-position
- Wide variety of actuator and termination options
- Epoxy terminal-seal compatible with bottom wash cleaning
- RoHS compliant



Models Available

Typical Applications

- Telecommunications
- Instrumentation
- Medical equipment



Specifications

CONTACT RATING: B contact material: 0.4 VA max. @ 20 V AC or DC max. Q contact material: 5 AMPS @ 120 V AC or 28 V DC; 2 AMPS @ 250 V AC. See page H-21 for additional ratings.

ELECTRICAL LIFE: 7X01 and UX1 models: 100,000 make-and-break cycles at full load. All other models: 40,000 cycles.

CONTACT RESISTANCE: Below 10 m Ω typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

INSULATION RESISTANCE: 10⁹ Ω min.

DIELECTRIC STRENGTH: 1000 Vrms min. @ sea level.

OPERATING TEMPERATURE: -30°C to 85°C.

SOLDERABILITY: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging).

NOTE: Any models supplied with S, P, R, Q, B or G contact material are RoHS compliant.

Materials

CASE: Glass filled nylon 6/6, flame retardant, heat stabilized, or diallyl phthalate (DAP) (UL 94V-0).

ACTUATOR: Nylon, black.

FRAME (FRONT MOUNT): Nylon, black.

FRAME (REAR MOUNT): Spring steel, black.

BUSHING: Brass or zinc, nickel plated.

HOUSING: Stainless steel.

SWITCH SUPPORT: Brass or steel, matte-tin plated.

END CONTACTS: B contact material: Copper alloy, with gold plate over nickel plate. Q contact material: Coin silver, silver plated. See page H-21 for additional contact materials.

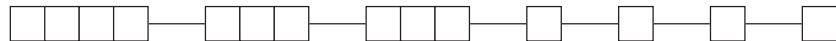
CENTER CONTACTS & ALL TERMINALS: B contact material: Copper alloy, with gold plate over nickel plate. Q contact material: Copper alloy, silver plated. See page H-21 for additional contact materials.

TERMINAL SEAL: Epoxy. Refer to Soldering and Cleaning in Technical Data Section

HARDWARE: Mounting nuts & screws: Brass. Lockwasher: Stainless steel. Standoff: Nylon standard.

Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages H-5 through H-25. For additional options not shown in catalog, consult Customer Service Center. All models have epoxy terminal seal and are compatible with all "bottom-wash" PCB cleaning methods.



Switch Function

- 7101 SP On-None-On
- 7103 SP On-Off-On
- 7105 SP Mom.-Off-Mom.
- 7107 SP On-Off-Mom.
- 7108 SP On-None-Mom.
- 7109 SP None-On-Mom.
- 7201 DP On-None-On
- 7203 DP On-Off-On
- 7205 DP Mom.-Off-Mom.
- 7207 DP On-Off-Mom.
- 7208 DP On-None-Mom.
- 7211 DP On-On-On
- 7213 DP On-On-Mom.
- 7215 DP Mom.-On-Mom.
- 7301 3P On-None-On
- 7303 3P On-Off-On
- 7401 4P On-None-On
- 7405 4P Mom.-Off-Mom.
- 7411 4P On-On-On

Note: UL/CSA models available, see pages H-5 and H-6.

Actuator

- J1 .531 long rocker
- J2 Lever
- J3 .906" long rocker
- J8 .699" long rocker
- J10 1.318" long rocker
- J11 Rocker with frame
- J15 Rocker, snap-in
- J16 Rocker with frame, snap-in
- J19 Rocker with frame
- J21 Lever with frame
- J25 Lever, snap-in
- J26 Lever with frame, snap-in
- J37 Rocker with frame
- J50 Rocker
- J51 Rocker with frame
- J52 Rocker with frame for LED, snap-in
- J60 Lever
- J61 Lever with frame, snap-in
- J62 Lever with frame for LED, snap-in
- J90 Lever
- J91 Lever with frame, snap-in

Terminations

- A Right angle, PC thru-hole
- AV2 Vertical right angle, PC thru-hole
- C PC Thru-hole
- Z Solder lug
- A3 Right angle, snap-in, PC thru-hole
- AV3 Vertical right angle, snap-in, PC thru-hole
- AW3 Right angle, extended, PC thru-hole
- V2 .555" high, V-bracket
- V3 .460" high, V-bracket
- V4 .630" high, V-bracket
- V5 Vertical right angle, PC thru-hole
- V6 .460" high, V-bracket
- V7 .630" high, V-bracket
- V8 .953" high, V-bracket
- V9 1.150" high, V-bracket
- V31 .460" high, V-bracket, snap-in
- V51 Vertical right angle, snap-in
- V61 .460" high, V-bracket, snap-in
- W .750" long, wire wrap
- W3 .425" long, wire wrap
- W5 1.305" long, wire wrap
- Z3 Quick connect

Contact Material

- B Gold
- P Gold, matte tin
- Q Silver
- S Silver, matte-tin
- G Gold over silver
- R Gold over silver, matte-tin

Seal

- E Epoxy
- I Epoxy potted base

Actuator Color

- 2 Black
- 1 White
- 3 Red

Frame Color

- 2 Black
- NONE No frame color required
- 1 White

Metal Frame Color

- (J11, J19, J21 & J37 Actuators)
- 2 Black
- 1 White

Rocker



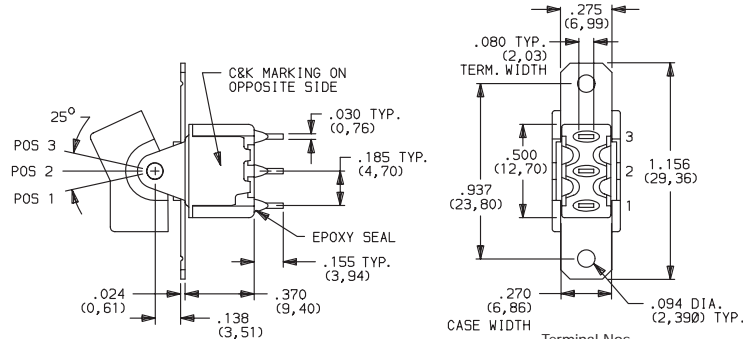
Dimensions are shown: Inch (mm)

7000 Series Miniature Rocker & Lever Handle Switches

SWITCH FUNCTION

NO. POLES	MODEL NO.	UL/CSA** MODEL NO.	SWITCH FUNCTION			CONNECTED TERMINALS			SCHEMATIC
			POS. 1	POS. 2	POS. 3	POS. 1	POS. 2	POS. 3	
			C&K marking on opposite side			C&K marking on opposite side			
SP	7101	U11	ON	NONE	ON	2-3	N/A	2-1	
	7103	U13	ON	OFF	ON		N/A		
	7105	U15	MOM.	OFF	MOM.		OPEN		
	7107	U17	ON	OFF	MOM.		N/A		
	7108	U18	ON	NONE	MOM.		N/A		
	7109	U19	NONE	ON	MOM.		2-3		

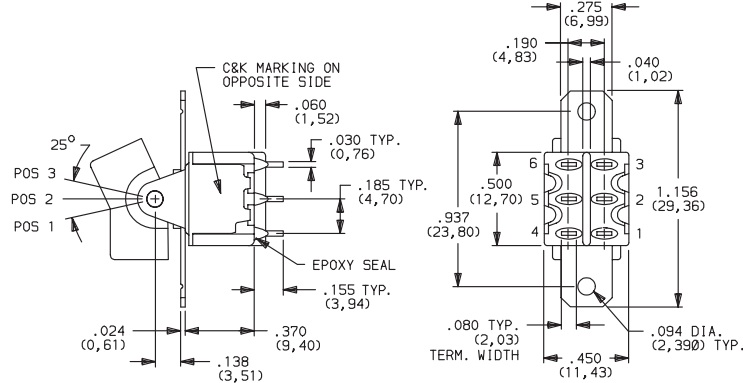
SPDT



Part number shown: 7101J1ZQE2

DP	7201	U21	ON	NONE	ON	2-3,5-6	N/A	2-1,5-4	
	7203	U23	ON	OFF	ON		OPEN		
	7205	U25	MOM.	OFF	MOM.		N/A		
	7207	U27	ON	OFF	MOM.		2-3,5-4		
	7208	U28	ON	NONE	MOM.				
	7211*	U211*	ON	ON	ON				
	7213*	U213*	ON	ON	MOM.				
7215*	U215*	MOM.	ON	MOM.					

DPDT

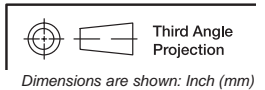


Part number shown: 7201J1ZQE2

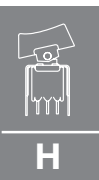
MOM. = Momentary

* Wiring for 3-way switch, see Section O.

** U11 through U413 model nos. with all options when ordered with G, Q, R or S contact material.



Rocker



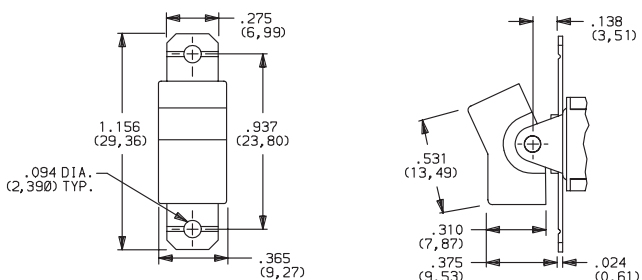
7000 Series Miniature Rocker & Lever Handle Switches

ACTUATOR-PANEL REAR MOUNT

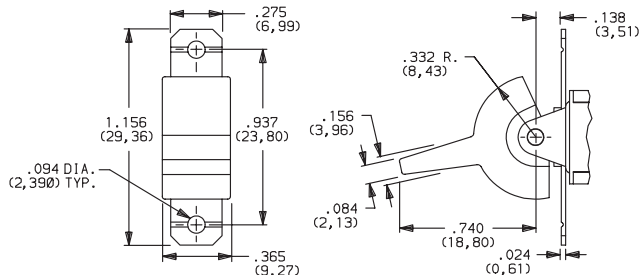
ACTUATOR COLOR

ACTUATOR

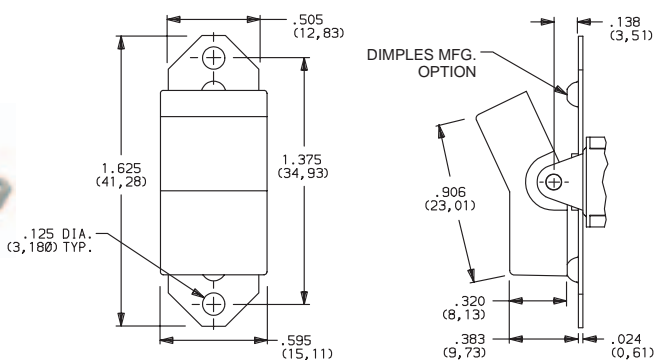
J1 ROCKER



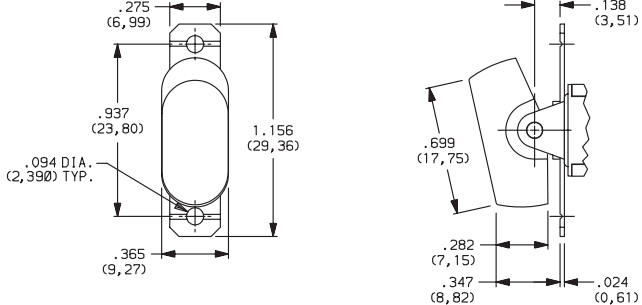
J2 LEVER



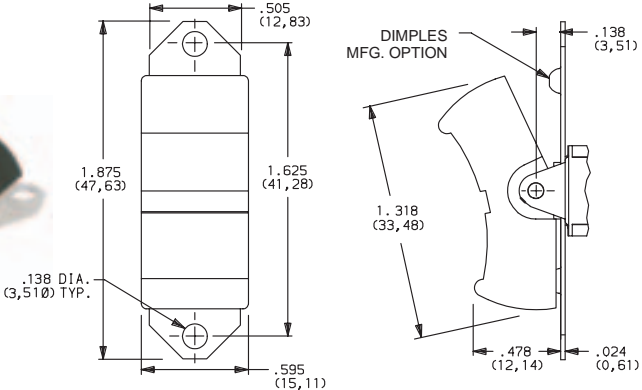
J3 ROCKER



J8 ROCKER



J10 ROCKER



OPTION CODE	ACTUATOR COLOR
2	BLACK
1	WHITE
3	RED

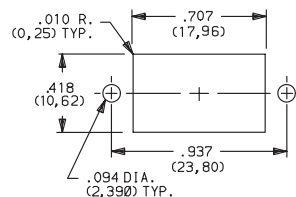
Finish: Matte. Other colors, custom actuator markings and legends available. Consult Customer Service Center.

NOTE: Hardware: two each—mounting screws, nuts, lockwashers and standoffs for 1/8 inch thick panel are supplied standard on all switches with panel mounting brackets. Actuators available separately, see page H-22. Hardware is available see Technical Data section of this catalog.

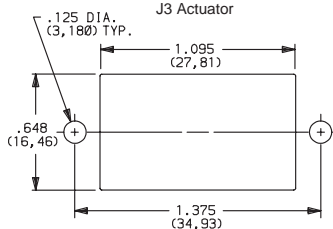
J1, J2, J3, J8 & J10 Actuators available with C, W-W5, Z or Z3 terminations.

PANEL MOUNTING

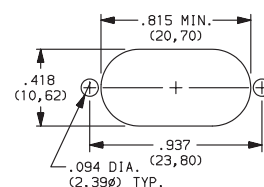
J1 & J2 Actuators



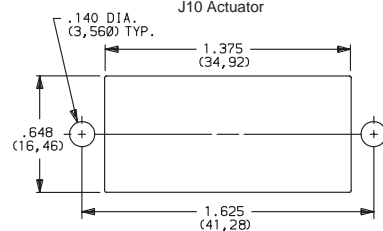
J3 Actuator



J8 Actuator



J10 Actuator



Third Angle Projection

Dimensions are shown: Inch (mm)

Rocker

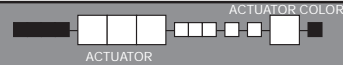


H



7000 Series Miniature Rocker & Lever Handle Switches

ACTUATOR-PC MOUNT



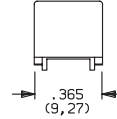
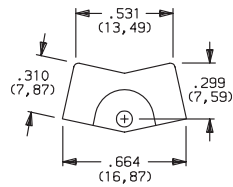
OPTION CODE	ACTUATOR COLOR
2	BLACK
1	WHITE
3	RED

Finish: Matte. Other colors, custom actuator markings and legends available, consult Customer Service Center.

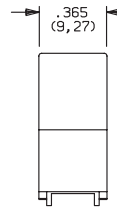
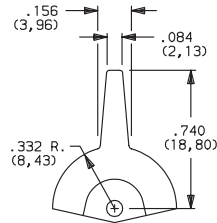
NOTE: Some permissible actuator/termination combinations may lack clearance between actuator and PC board, and care must be exercised to accommodate this condition.

Actuators available separately, see page H-22. J1, J2 & J8 actuators available with A, A3, AV2, AV3, AW3 & V2 terminations. J3 actuators available with AV2, AV3 & V2-V61 terminations. J50 actuators available with A (DP, 3P models only), A3 (DP, 3P models only), AV2, AV3, AW3 (DP, 3P models only) & V2-V61 terminations.

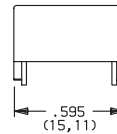
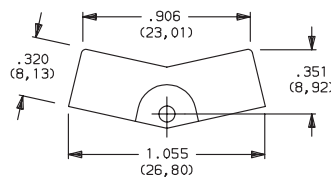
J1 ROCKER



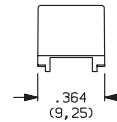
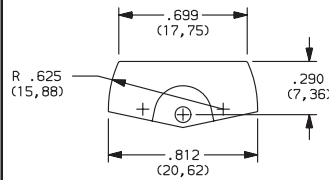
J2 LEVER



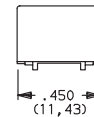
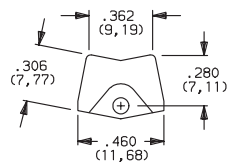
J3 ROCKER



J8 ROCKER



J50 ROCKER



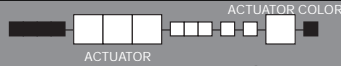
Rocker



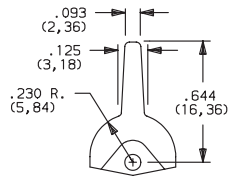
Dimensions are shown: Inch (mm)

7000 Series Miniature Rocker & Lever Handle Switches

ACTUATOR-PC MOUNT



J60 LEVER

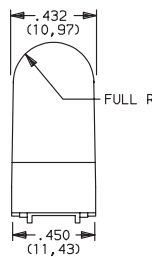
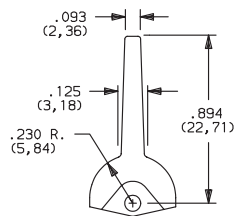


OPTION CODE	ACTUATOR COLOR
2	BLACK
1	WHITE
3	RED

Finish: Matte. Other colors, custom actuator markings and legends available, consult Customer Service Center.

NOTE: Some permissible actuator/termination combinations may lack clearance between actuator and PC board, and care must be exercised to accommodate this condition.

J90 LEVER

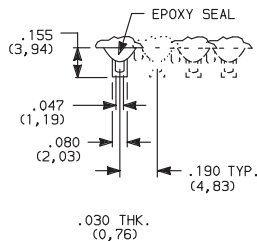


Actuators available separately, see page H-22. J60 & J90 actuators available with A (DP, 3P models only), A3 (DP, 3P models only), AV2, AV3, AW3 (DP, 3P models only) & V2-V61 terminations.

TERMINATIONS



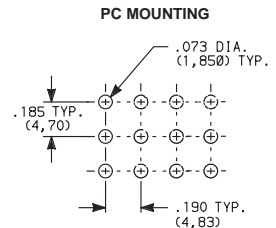
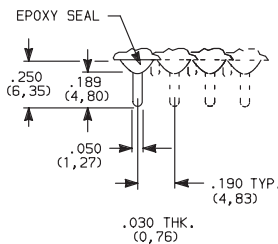
Z SOLDER LUG



SPDT thru 4PDT

Not available with P, R or S contact materials. Available actuators, see pages H-7 through H-13.

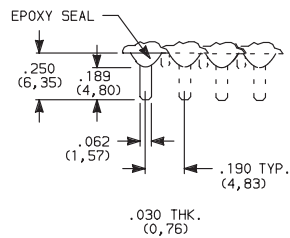
C PC THRU-HOLE



SPDT thru 4PDT

NOTE: Available actuators, see pages H-7 through H-13.

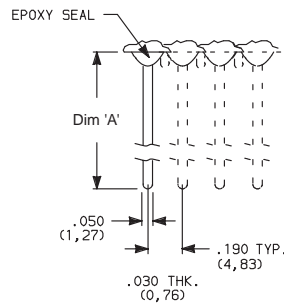
Z3 QUICK CONNECT



SPDT thru 4PDT

Not available with P, R or S contact materials. Available actuators, see pages H-7 through H-13. Mating quick connector available; order part number 530100000, page H-23.

W, W3, W5 WIRE WRAP



OPTION CODE	DIM 'A'
W	.750 (19,05)
W3	.425 (10,80)
W5	1.305 (33,15)

SPDT thru 4PDT

NOTE: Available actuators, see pages H-7 through H-13.



Dimensions are shown: Inch (mm)

C&K

Rocker

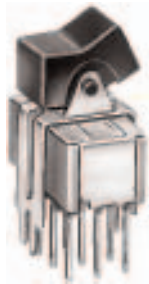


H

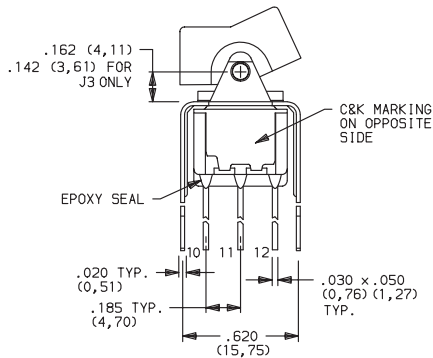
7000 Series Miniature Rocker & Lever Handle Switches

TERMINATIONS

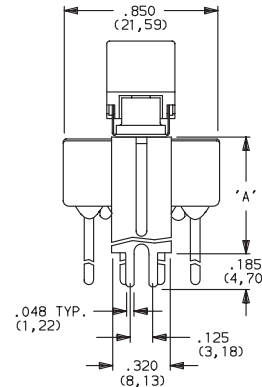
V4, V9 VERTICAL MOUNT, V-BRACKET



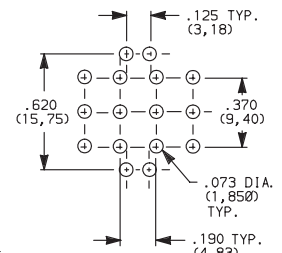
7401J1_BE2
4PDT



Actuator Shown In Pos. 1



PC MOUNTING



OPTION CODE	DIM 'A'
V4	.630 (16,00)
V9	1.150 (29,21)

Not available with I seal option.
Available actuators, see pages H-7 and H-13.

CONTACT MATERIAL

OPTION CODE	CONTACT MATERIAL	TERMINAL PLATING	RATINGS	
B	GOLD ¹	GOLD ¹	LOW LEVEL/ DRY CIRCUIT	0.4 VA MAX. @ 20 V AC OR DC MAX.
P		MATTE-TIN ⁶		
Q	SILVER ^{4,5}	SILVER ⁵	POWER	5 AMPS @ 120 V AC OR 28 V DC; 2 AMPS @ 250 V AC.
S		MATTE-TIN ⁶		
G	GOLD OVER SILVER ^{2,3}	GOLD ³	LOW LEVEL/DRY CIRCUIT OR POWER	0.4 VA MAX @ 20 V AC OR DC MAX OR 5 AMPS @ 120 V AC OR 28 V DC; 2 AMPS @ 250 V AC.
R		MATTE-TIN ⁶		

* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

- CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate.
- END CONTACTS: Coin silver, with gold plate over nickel plate.
- CENTER CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate.
- END CONTACTS: Coin silver, silver plated.
- CENTER CONTACT & ALL TERMINALS: Copper alloy, silver plated.
- TERMINALS: Copper alloy, with matte-tin over nickel plate.

U11-U415 model numbers with all options when ordered with G, L, M, Q, S & R contact material.

B contact material standard with all terminations except C, Z & Z3.
Q contact material standard with C, Z & Z3 terminations.

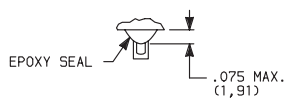
P, S & R, contact materials not available with Z & Z3 terminations.

K, L and M options represent Non RoHS tin lead product and are not recommended for new designs. For additional information please contact Customer Service.

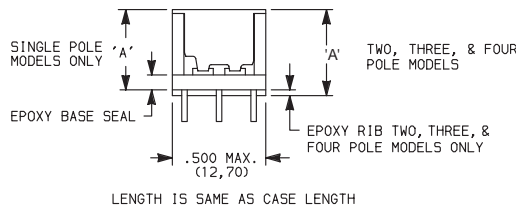
NOTE: Any models supplied with Q, B, G, S, P & R contact material are RoHS compliant.

SEAL

E EPOXY SEAL

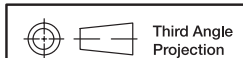


I EPOXY POTTED BASE



Available with C, W through W5, Z & Z3 terminations.

NO. POLES	DIM 'A'
SP	.410 (10,41)
DP	.440 (11,18)
3P	.505 (12,83)
4P	.505 (12,83)



Dimensions are shown: Inch (mm)

C&K

Rocker



H