#### Features/Benefits

- Positive tactile feel
- Multi-positions available
- Wide variety of termination options
- Epoxy terminal seal compatible with bottom wash cleaning
- RoHS compliant models available

•**A** () •

Models Available

#### Specifications

- CONTACT RATING: B contact material (8X25 Models): 0.4 VA max. @ 20 V AC or DC maximum. G contact material (8X21, U8X1 Models): 1 AMP @ 120 V AC or 28 V DC or 0.4 VA max. @ 20 V AC or DC max. Note: Break-before-makecontacts. Multi-pole contacts do not make and break simultaneously. See page A-43 for additional ratings.
- ELECTRICAL LIFE: 60,000 make-and-break cycles at full load. CONTACT RESISTANCE: Below 50 m $\Omega$  typ. initial @
- 2-4 V DC, 100 mA, for both silver and gold plated contacts. INSULATION RESISTANCE:  $10^9\Omega$  min.
- DIELECTRIC STRENGTH: 1,000 Vrms min. @ sea level.
- OPERATING TEMPERATURE: 8X2X MODELS: -30°C to 75°C.

U8X1 MODELS: -30°C to 65°C. CAP INSTALLATION FORCE: 10 lbs. max. permissible.

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

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

NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Typical Applications

- Instrumentation
- Computer peripherals
- Telecommunications equipment



#### **Materials**

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

PLUNGER: Glass filled nylon or glass filled polyester (PBT) (UL 94V-0).

CAP & FRAME: Nylon, black, standard.

BUSHING: Brass or zinc, nickel plated.

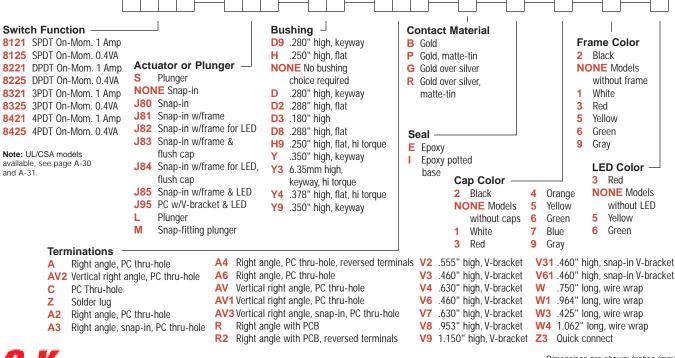
HOUSING: Stainless steel.

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

- N.O. & N.C. CONTACTS: 8X21, U8X1 MODELS: G contact material: Coin silver, with gold plate over nickel plate. See page A-43 for additional contact materials.
  - 8X25 MODELS: B contact material: Copper alloy, with gold plate over nickel plate. See page A-43 for additional contact materials.
- COMMON CONTACT & ALL TERMINALS: Copper alloy, with gold plate over nickel plate.
- TERMINAL SEAL: Epoxy. Refer to slodering and cleaning Technical Data Chapter.
- HARDWARE: Nut & Locking Ring: Brass, nickel plated; Lockwasher: Steel, nickel plated.

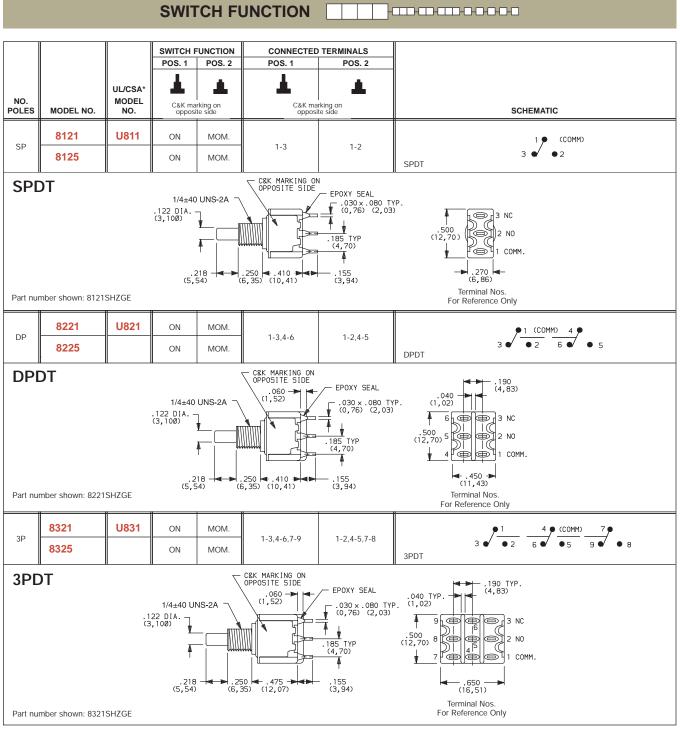
#### **Build-A-Switch**

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages A-30 thru A-45. 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.



C&K

Dimensions are shown: Inches (mm) Specifications and dimensions subject to change



MOM. = Momentary

\*U811 thru U841 model numbers  ${}_{\otimes}$  W  ${}^{\otimes}$  with all options (except R, R2 terminations) when ordered with G ,L or R contact material.

8X25 models must be ordered with B or P contact material. 8X21 and U8X1 models must be ordered with G or R contact material.

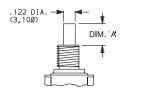


Specifications and dimensions subject to change



PLUNGER

# S PLUNGER

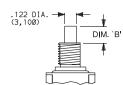


NO PLUNGER CHOICE REQUIRED (JXX ACTUATORS)

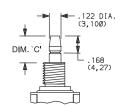
AVAILABLE BUSHINGS	DIM. 'A' FOR C, W-W4, Z & Z3 TERMINATIONS	DIM. 'A' FOR A, A2, A3, A4, A6, AV-A3, R & R2 TERMINATIONS	DIM. 'A' FOR V3-V61 TERMINATIONS
D, D9	.244 (6,20)	.228 (5,79)	.224 (5,69)
Н, Н9	.218 (5,54)	.202 (5,13)	.198 (5,03)
Y, Y9	.203 (5,16)	.187 (4,75)	.183 (4,65)
Y3	(5,54)	(5,13)	(5,03)
Y4	.185 (4,70)	.169 (4,29)	.165 (4,19)
D2, D8	N/A	.232 (5,89)	.228 (5,79)
D3	N/A	.162 (4,11)	.158 (4,01)

ACTUATOR OR PLUNGER

#### L PLUNGER



M SNAP-FITTING PLUNGER



AVAILABLE BUSHINGS	DIM. 'B' FOR C, W-W4, Z & Z3 TERMINATIONS	DIM. 'B' FOR A, A2, A3, A4, A6, AV-A3, R & R2 TERMINATIONS	DIM. 'B' FOR V3-V61 TERMINATIONS
Y, Y9	.178 (4,52)	.162 (4,11)	.158 (4,01)
Y4	.090 (2,29)	.074 (1,88)	.070 (1,78)

AVAILABLE BUSHINGS	DIM. 'C' FOR C, W-W4, Z & Z3 TERMINATIONS	DIM. 'C' FOR A, A2, A3, A4, A6, AV-A3, R & R2 TERMINATIONS	DIM. 'C' FOR V3-V61 TERMINATIONS
D, D9	.297 (7,54)	.281 (7,14)	.277 (7,04)
H, H9	.267 (6,78)	.251 (6,38)	.247 (6,27)
Y, Y9	.259 (6,58)	.243 (6,17)	.239 (6,07)
Y3	(6,78)	(6,37)	(6,27)
Y4	.259 (6,58)	.243 (6,17)	.239 (6,07)
D2, D8	N/A	.273 (6,93)	.269 (6,83)
D3	N/A	.361 (9,17)	.357 (9,07)

N/A = NOT AVAILABLE

**NOTE:** When selecting plunger option, bushing selection must also be made, see next page. No plunger option is required when any JXX actuator option is selected. Additional plunger lengths are available on SPDT and DPDT models, consult Customer Service Center. Not all plunger lengths sufficient for use with caps, see page A-44.

		BUSHING		
NONE	NO BUSHING CHOICE REQUIRED (JXX ACTUATORS)	<ul> <li>D .280" HIGH THREADED, KEYWAY</li> <li>D9 .280" HIGH UNTHREADED, KEYWAY</li> </ul>	<ul> <li>H .250" HIGH THREADED, FLAT</li> <li>H9 .250" HIGH UNTHREADED, FLAT</li> </ul>	Y .350" HIGH THREADED, KEYWAY Y9 .350" HIGH UNTHREADED, KEYWAY
		.028 .028	.314 DIA. (7,980) .225 (5,72)	.028 .028
		1/4-40 UNS-2A	1/4-40 UNS-2A MFG. OPTION-RELIEF OR IMPERFECT THD. .040 (1,02) .020 (0,51)	1/4-40 UNS-2A
		D9 bushing standard with A-A6, R, R2 AV-AV3 terminations.	H bushing standard with C, W-W4, Z or Z3 H, H9 bushings not available on single pol A3-A6, R, R2 terminations. Will withstand 12 in /lbs. of torque with	

Will withstand 12 in./lbs. of torque with no distortion.



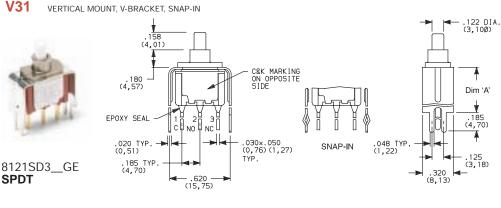
Dimensions are shown: Inches (mm) Specifications and dimensions subject to change



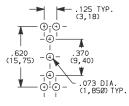
TERMINATIONS 

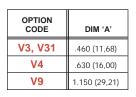


SPDT







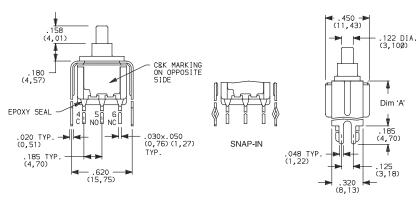


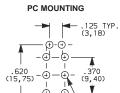
Not available with J8X actuators and I seal.

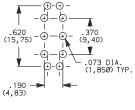
**V3**, **V4**, **V9** VERTICAL MOUNT, V-BRACKET

V31 VERTICAL MOUNT, V-BRACKET, SNAP-IN







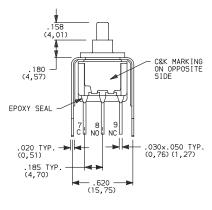


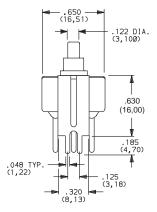
OPTION CODE	DIM 'A'	
V3, V31	.460 (11,68)	
V4	.630 (16,00)	
V9	1.150 (29,21)	

#### Not available with J8X actuators and I seal.

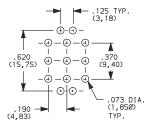
V4, V9 VERTICAL MOUNT, V-BRACKET







#### PC MOUNTING



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

Third Angle ¥ Projection

Not available with JXX actuators and I seal.

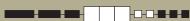


8321SD3V4GE

3PDT

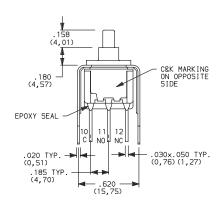
Dimensions are shown: Inches (mm) Specifications and dimensions subject to change

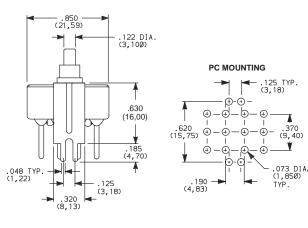
TERMINATIONS



₽₽ Α Pushbutton

V4, V9 VERTICAL MOUNT, V-BRACKET







8421SD3V4GE 4PDT

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

Not available with JXX actuators and I seal

CONTACT MATERIAL

OPTION CODE	CONTACT MATERIAL	TERMINAL PLATING	RATINGS	
В	GOLD <sup>1</sup>	GOLD 1	LOW LEVEL/DRY CIRCUIT	8x25 MODELS ONLY: 0.4 MAX. @ 20 V AC OR DC MAX.
Р		MATTE-TIN <sup>4</sup>		
G	GOLD OVER SILVER <sup>2,3</sup>	GOLD 3	LOW LEVEL/DRY	8X21, U8X1 MODELS ONLY: 0.4 VA MAX
R		MATTE-TIN <sup>4</sup>	CIRCUIT OR POWER	@ 20 V AC OR DC MAX. OR 1 AMP @ 120 V AC OR 28 V DC.

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

<sup>1</sup> ALL CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate.

<sup>2</sup> N.O. AND N.C. CONTACTS: Coin silver, with gold plate over nickel plate.

<sup>3</sup> COMMON CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate

<sup>4</sup> TERMINALS: Copper alloy, with matte-tin over nickel plate.

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

U811-U841 models N III with all options (except R, R2 terminations) when ordered with mandatory G, R or L contact material.

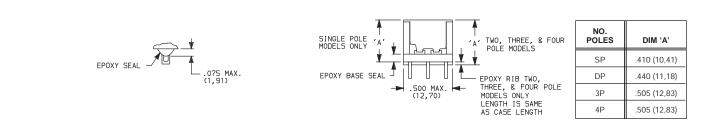
B or P contact material must be ordered with 8X25 models.

G or R contact material must be ordered with 8X21, U8X1 models.

P or R contact material 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.



Ε EPOXY SEAL EPOXY POTTED BASE



NOTE: Available with C, W-W4, Z, Z3 terminations only.



U Projection Dimensions are shown: Inches (mm)

Third Anale

Specifications and dimensions subject to change