

C&K E020 Series Sealed Snap-acting Momentary Pushbutton Switches

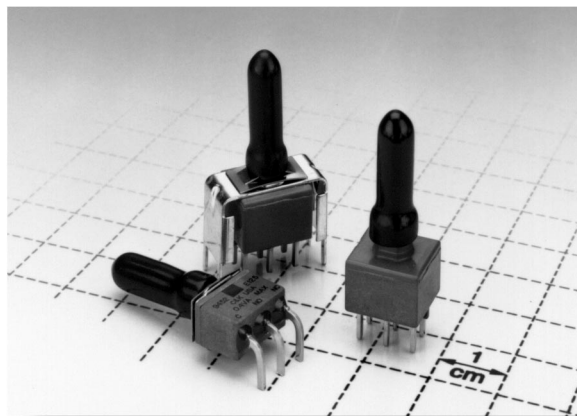


Features/Benefits

- Process sealed with disposable splashproof boot
- Long life contact design
- Snap-fitting plunger available

Typical Applications

- Instrumentation
- Telecommunications and networking equipment
- Computers and peripherals



Build-A-Switch

Our easy Build-A-Switch concept allows you to mix and match options to create the switch you need. Below is a complete listing of options shown in catalog. To order, simply select desired option from each category and place in the appropriate box. Switches with standard options are shown on pages B-18 and B-19. Available options are shown and described on pages B-19 thru B-24. For additional options not shown in catalog, consult our Customer Service Center. All models are process sealed to withstand machine soldering temperatures and pressure wash cleaning methods.

Typical Example: E 1 2 1 — S — D 1 — C — B — E

Switch Function

- E121** (STD.) SPDT On-Mom. 1 Amp
- E221** (STD.) DPDT On-Mom. 1 Amp
- E125** SPDT On-Mom. 0.4VA
- E225** DPDT On-Mom. 0.4VA

Plunger

- S** (STD.) .282" high
- M** .331" high, snap-fitting
- S1** .332" high

Bushing

- D1** (STD.) Unthreaded
- D3** .180" high, unthreaded

Terminations

- A** (STD.) Right angle, PC thru-hole
- AV2** (STD.) Vertical right angle, PC thru-hole
- C** (STD.) PC Thru-hole
- A3** Right angle, snap-in, PC thru-hole
- AV3** Vertical right angle, snap-in, PC thru-hole
- AW** Right angle, extended, PC thru-hole
- R** Right angle with PCB
- R2** Right angle with PCB
- V3** .460" high, V-bracket
- V4** .630" high, V-bracket
- V31** .460" high, snap-in V-bracket
- V41** .630" high, snap-in V-bracket
- V61** .460" high, snap-in V-bracket

Contact Material

- B** (STD.) Gold
- G** (STD.) Gold over silver
- K** Gold
- L** Gold over silver

Seal

- E** (STD.) Epoxy and disposable splashproof boot

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Specifications

CONTACT RATING: B contact material (EX25 Models): 0.4 VA max. @ 20 V AC or DC max. G contact material (EX21 Models): 1 AMP @ 120 V AC or 28 V DC or 0.4 VA max. @ 20 V AC or DC max.

Note: Break-before-make contacts. Multi-pole contacts do not make and break simultaneously. See page B-24 for additional ratings.

ELECTRICAL LIFE: 60,000 make-and-break cycles at full load.

CONTACT RESISTANCE: Below 50 milliohms typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

INSULATION RESISTANCE: 10^9 ohms min.

DIELECTRIC STRENGTH: 1000 V RMS min. @ sea level.

OPERATING TEMPERATURE: -30°C to 75°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: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Materials

CASE & BUSHING: Glass filled nylon 6/6, flame retardant (UL 94V-0).

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

SWITCH SUPPORT: Brass or steel, tin plated.

SWITCH SUPPORT RETAINER: Stainless steel.

N.O. & N.C. CONTACTS: EX25 MODELS: B contact material: Copper alloy, with gold plate over nickel plate. EX21 MODELS: G contact material: Coin silver, with gold plate over nickel plate. See page B-24 for additional contact materials.

COMMON CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate. See page B-24 for additional contact materials.

TERMINAL SEAL: Epoxy.

DISPOSABLE BOOT: Vinyl splashproof boot supplied standard. Remove and discard *only* after soldering and cleaning processes are complete.



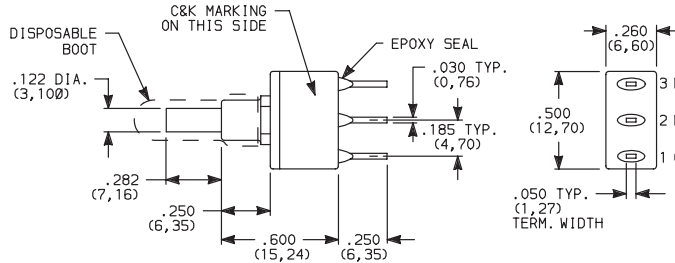
B

Pushbutton

SWITCHES WITH STANDARD OPTIONS



E121SD1CGE
SPDT



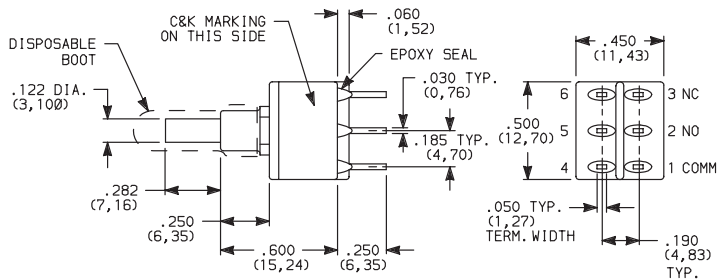
PART NUMBER	FUNCTION	RATING	POS. 1	POS. 2
E121SD1CGE	SPDT	1 AMP 0.4 VA		
E125SD1CBE			ON	MOM.

MOM. = Momentary

NOTE: For PC mounting information, see page B-20.



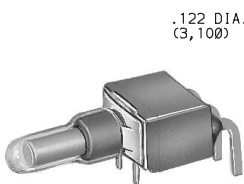
E221SD1CGE
DPDT



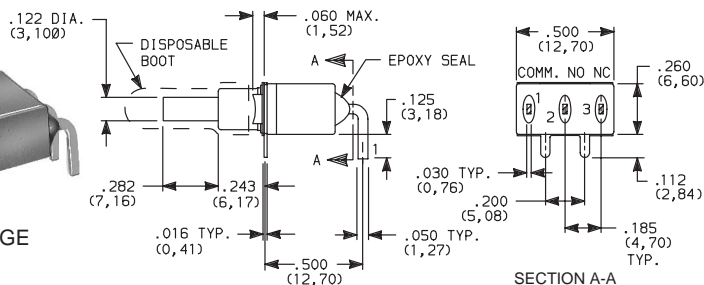
PART NUMBER	FUNCTION	RATING	POS. 1	POS. 2
E221SD1CBE	DPDT	0.4 VA		
			ON	MOM.

MOM. = Momentary

NOTE: For PC mounting information, see page B-20.



E121SD1AGE
SPDT



PART NUMBER	FUNCTION	RATING	POS. 1	POS. 2
E121SD1AGE	SPDT	1 AMP 0.4 VA		
E125SD1ABE			ON	MOM.

MOM. = Momentary

NOTE: For PC mounting information, see page B-20.

C&K E020 Series Sealed Snap-acting Momentary Pushbutton Switches

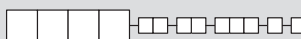
SWITCHES WITH STANDARD OPTIONS

PART NUMBER	FUNCTION	RATING	POS. 1	POS. 2
E121SD1AV2GE	SPDT	1 AMP	ON	MOM.
E125SD1AV2BE		0.4 VA	ON	MOM.

MOM. = Momentary
NOTE: For PC mounting information, see page B-21.

**E121SD1AV2GE
SPDT**

SWITCH FUNCTION



NO. POLES	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS		SCHEMATIC
		POS. 1	POS. 2	POS. 1	POS. 2	
SP	E121 (STD.)	ON	MOM.	1-3	1-2	
	E125 (STD.)	ON	MOM.			
DP	E221	ON	MOM.	1-3,4-6	1-2,4-5	
	E225	ON	MOM.			

MOM. = Momentary

E121, E221 models with all options (except R, R2) when ordered with G or L contact material.

EX25 models must be ordered with B or K contact material.

EX21 models must be ordered with G or L contact material.

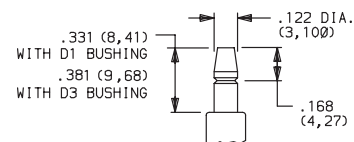
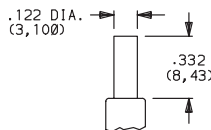
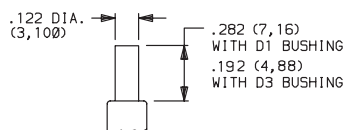
PLUNGER



S (STD.) .282" HIGH

S1 .332" HIGH

M .331" HIGH SNAP-FITTING



Not available with D1 bushing.

NOTE: Caps available for all plunger options, see pages L-8 thru L-10.



B

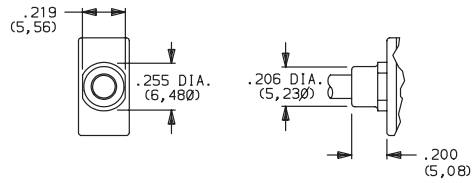
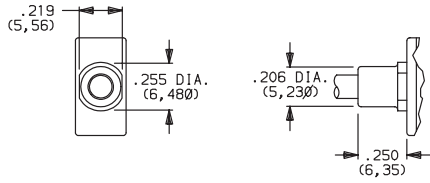
Pushbutton

C&K E020 Series Sealed Snap-acting Momentary Pushbutton Switches

BUSHING

D1 (STD.) UNTHREADED

D3 .180" HIGH UNTHREADED

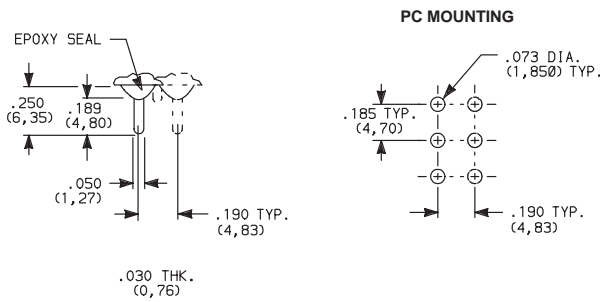


Not available with S1 actuator.

NOTE: Disposable splashproof vinyl boot over actuator and bushing supplied std., see page B-24.

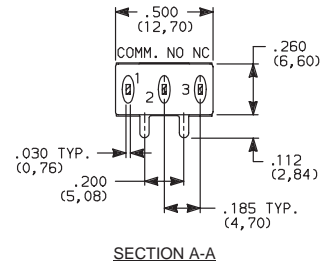
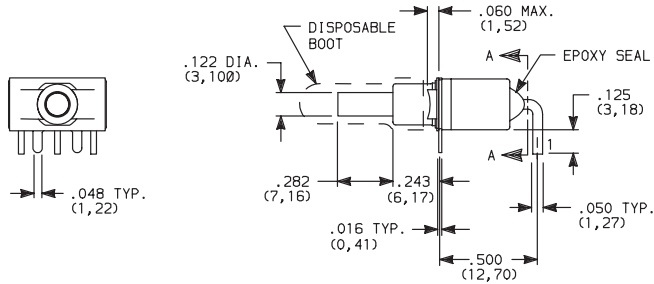
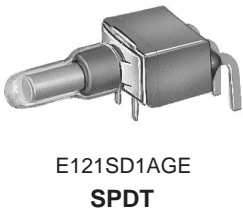
TERMINATIONS

C (STD.) PC THRU-HOLE



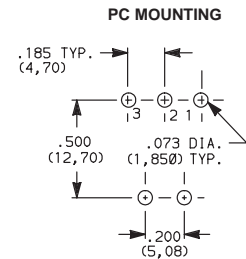
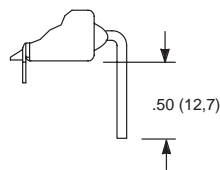
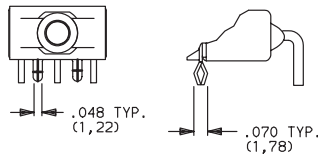
SPDT and DPDT

A (STD.) RIGHT ANGLE, PC THRU-HOLE



A3 RIGHT ANGLE, SNAP-IN, PC THRU-HOLE

AW RIGHT ANGLE, EXTENDED, PC THRU-HOLE

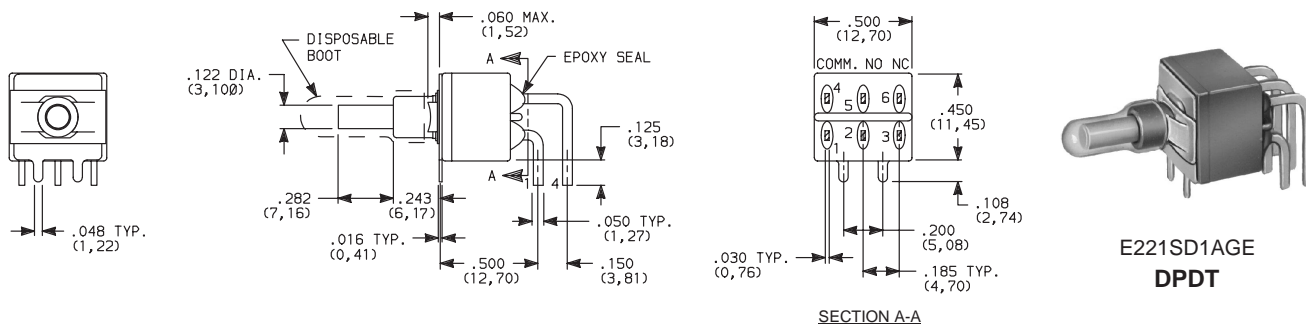


NOTE: Terminal bend radii and lead-in manufacturing option.

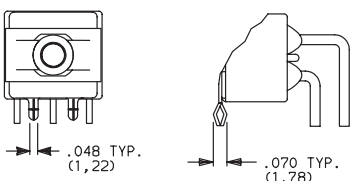
C&K E020 Series Sealed Snap-acting Momentary Pushbutton Switches

TERMINATIONS

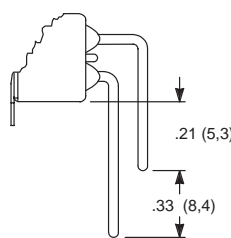
A (STD.) RIGHT ANGLE, PC THRU-HOLE



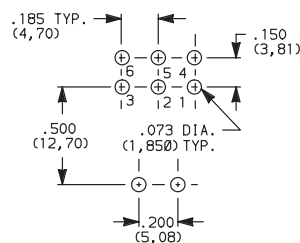
A3 RIGHT ANGLE, SNAP-IN, PC THRU-HOLE



AW RIGHT ANGLE, EXTENDED, PC THRU-HOLE

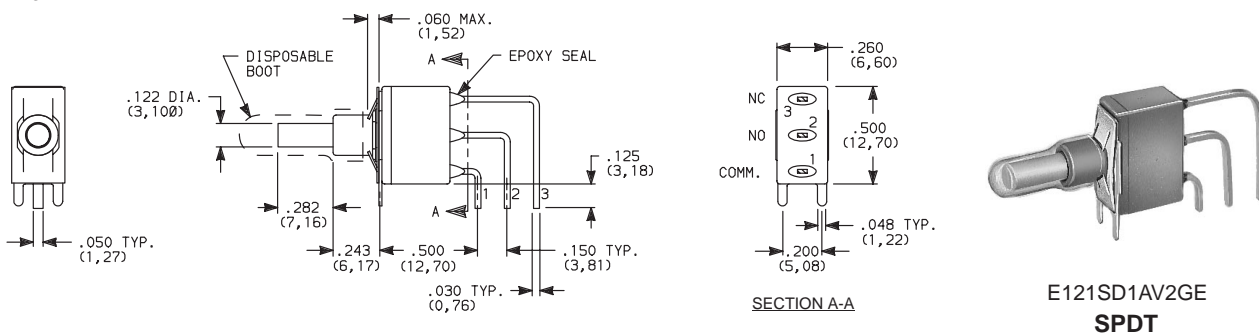


PC MOUNTING

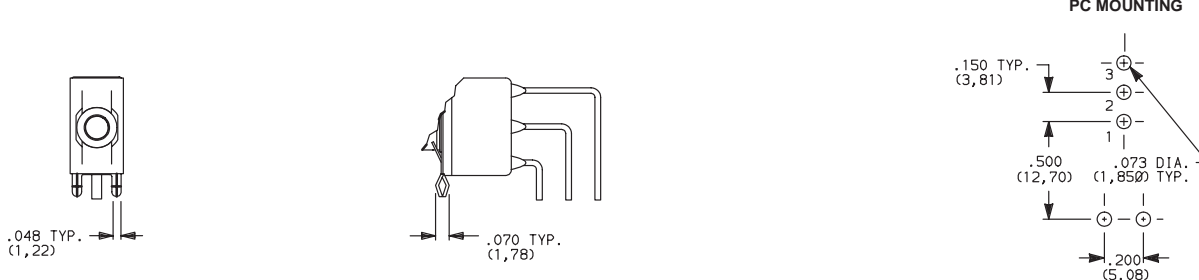


NOTE: Terminal bend radii and lead-in manufacturing option.

AV2 (STD.) VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH



AV3 VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, .150" PITCH



NOTE: Terminal bend radii and lead-in manufacturing option.



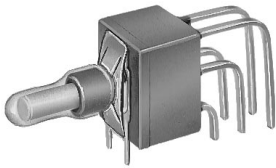
B

Pushbutton

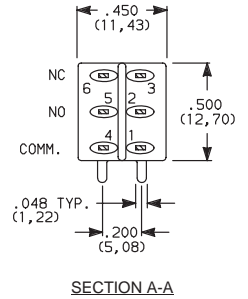
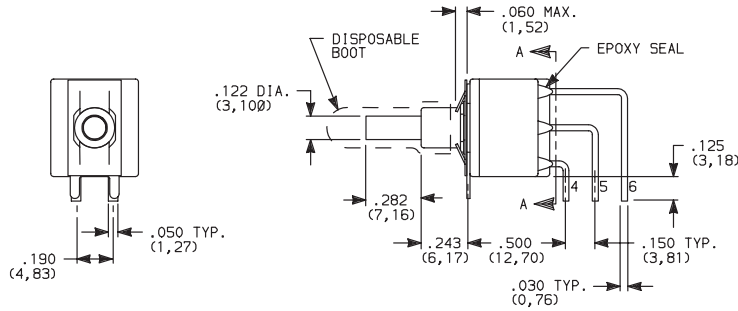
C&K E020 Series Sealed Snap-acting Momentary Pushbutton Switches

TERMINATIONS

AV2 (STD.) VERTICAL RIGHT ANGLE, PC THRU-HOLE,
.150" PITCH



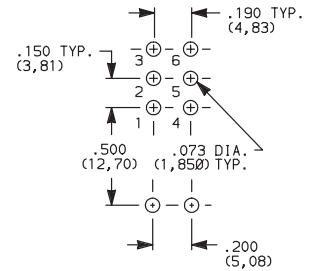
**E221SD1AV2GE
DPDT**



AV3 VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE,
.150" PITCH

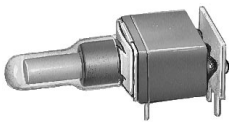


PC MOUNTING

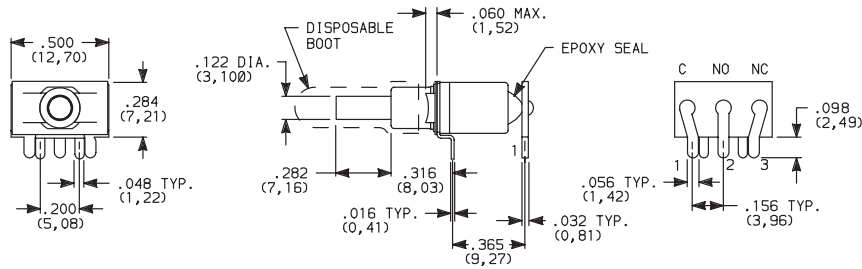


NOTE: Terminal bend radii and lead-in manufacturing option.

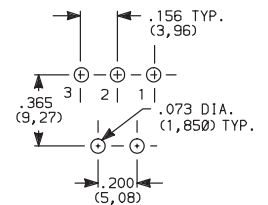
R RIGHT ANGLE WITH PCB



**E121SD1RGE
SPDT**

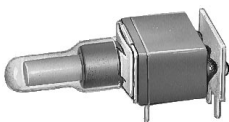


PC MOUNTING

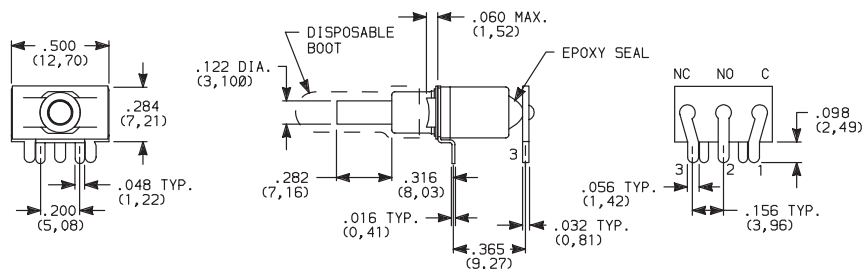


R termination not UL/CSA approved.

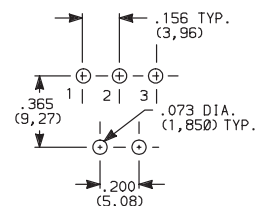
R2 RIGHT ANGLE WITH PCB



**E121SD1R2GE
SPDT**



PC MOUNTING

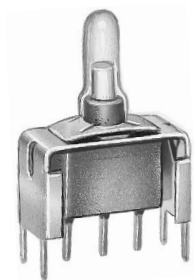
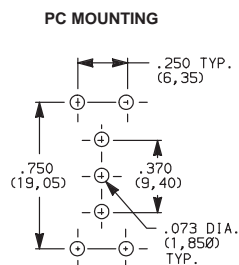
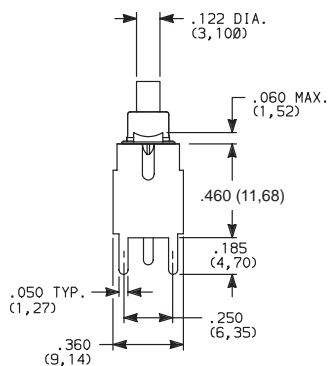
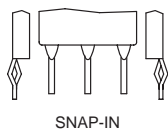
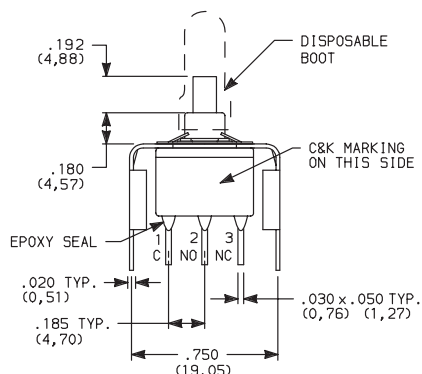


R2 termination not UL/CSA approved.

C&K E020 Series Sealed Snap-acting Momentary Pushbutton Switches

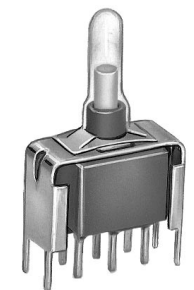
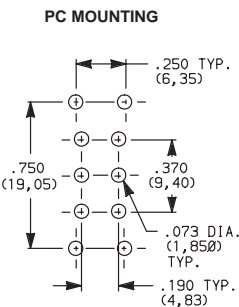
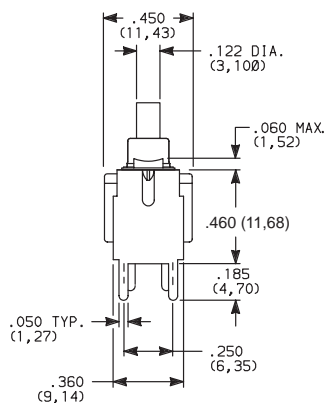
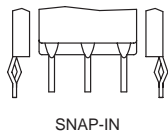
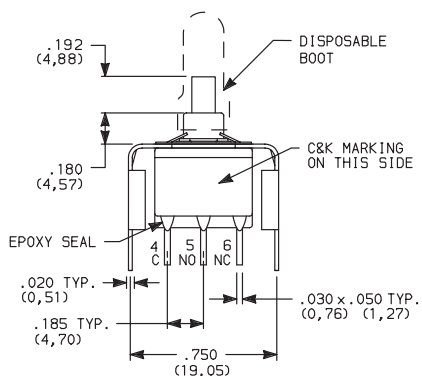
TERMINATIONS

V61 VERTICAL MOUNT, V-BRACKET, SNAP-IN



E121SD3V61GE
SPDT

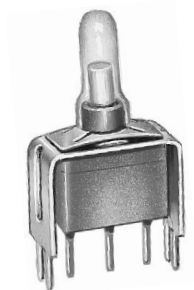
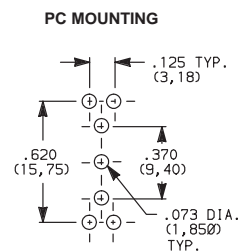
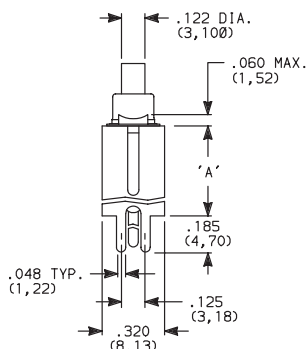
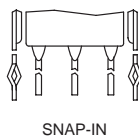
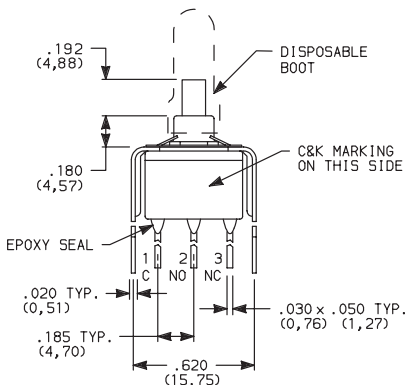
V61 VERTICAL MOUNT, V-BRACKET, SNAP-IN



E221SD3V61GE
DPDT

V3, V4 VERTICAL MOUNT, V-BRACKET

V31, V41 VERTICAL MOUNT, V-BRACKET, SNAP-IN



E121SD3_GE
SPDT

OPTION CODE	DIM 'A'
V3, V31	.460 (11,68)
V4, V41	.630 (16,00)

C&K E020 Series Sealed Snap-acting Momentary Pushbutton Switches

TERMINATIONS

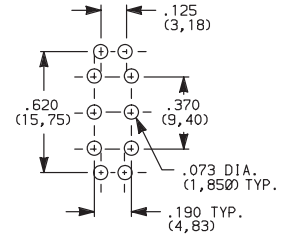
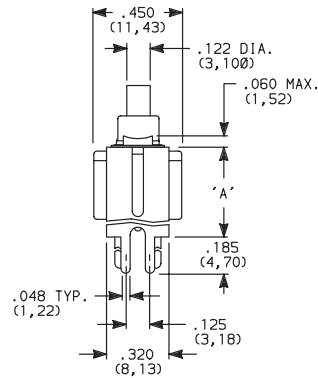
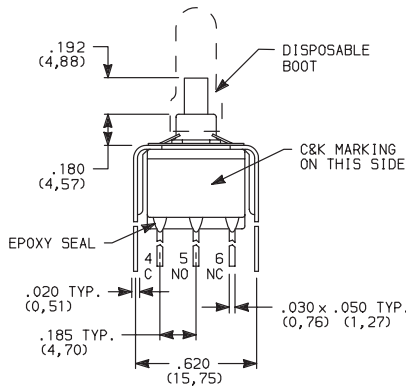
V3, V4 VERTICAL MOUNT, V-BRACKET

V31, V41 VERTICAL MOUNT, V-BRACKET, SNAP-IN

PC MOUNTING



E221SD3_GE
DPDT



OPTION CODE	DIM 'A'
V3, V31	.460 (11,68)
V4, V41	.630 (16,00)

CONTACT MATERIAL

OPTION CODE	CONTACT MATERIAL	TERMINAL PLATING	RATINGS	
B (STD.)	GOLD ¹	GOLD ¹	LOW LEVEL/DRY CIRCUIT	EX25 MODELS ONLY: 0.4 VA MAX. @ 20 V AC OR DC MAX.
K		TIN-LEAD ⁴		
G (STD.)	GOLD OVER SILVER ^{2,3}	GOLD ³	LOW LEVEL/DRY CIRCUIT OR POWER	EX21 MODELS ONLY: 0.4 VA MAX @ 20 V AC OR DC MAX. OR 1 AMP @ 120 V AC OR 28 V DC.
L		TIN-LEAD ⁴		

CONTACT MATERIAL/APPLICATION RECOMMENDATIONS—SEE CHART, PAGE L-31.

¹ CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate.

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

³ COMMON CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate.

⁴ TERMINALS: Copper alloy, with tin-lead alloy over nickel plate.

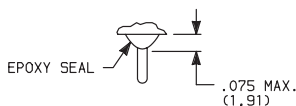
E121, E221 models with all options (except R & R2) when ordered with mandatory G or L contact material.

B or K contact material must be ordered with EX25 models.

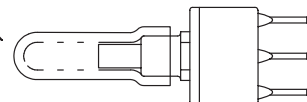
G or L contact material must be ordered with EX21 models.

SEAL

E (STD.) EPOXY SEAL AND DISPOSABLE SPLASHPROOF BOOT



Disposable splashproof boot supplied standard. Remove and discard boot *only after* soldering and cleaning processes are complete.



Pushbutton

B