



\*Process sealed—withstands soldering and cleaning processes.



E101J1ZBE2



E101J1AV2BE2



E101J2A3BE2



E201J1V3BE2

models available, see page B-33.

B

### Easy Build-A-Switch

Below is a complete listing of available options for E SERIES SEALED ANTI-STATIC ROCKER AND LEVER HANDLE SWITCHES. Build-A-Switch allows you to mix and match options to create the switch you need—simply select desired option from each category. Switches with standard options are shown on page B-32; all available options are shown and described on pages B-33 thru B-45. When building a part number, some ordering format boxes may not be filled. Dashes, hyphens or spaces in the part number are not significant, and are shown for clarity only. Complete HOW TO ORDER information is at the end of this section, page B-45. Hardware and accessories are available separately, see section K. All models are process sealed to withstand machine soldering temperatures and pressure wash cleaning methods.

SWITCH FUNCTION	ACTUATOR	TERMINATIONS	CONTACT MATERIAL	SEAL	ACTUATOR COLOR	FRAME COLOR
			Silver	Epoxy	Black	Black
[ ] [ ] [ ] [ ]	[ ] [ ] [ ] [ ]	[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ]	[ ]
E101	J1	A V61	B	E	1	(NONE)
E103	J2	A3 V71	G		2	1
E105	J3	AV2 V81	K		3	2
E107	J4	AV3 V91	L			C
E108	J5	AV5 W	M			S
E201	J8	AW W1	Q			
E203	J11	AW1 W3				
E205	J21	AW3 W4				
E207	J50	AW4 W5				
E208	J54	AW5 Z				
E211	J60	C Z3				
E213	J64	V2				
E215	J90	V3				
E301	J94	V4				
E303		V5				
E305		V6				
E307		V7				
E308		V8				
		V9				
		V21				
		V31				
		V41				
		V51				
		V54				
		V55				



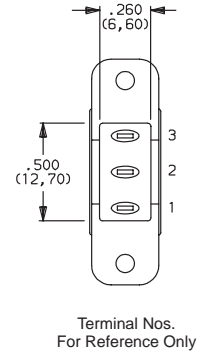
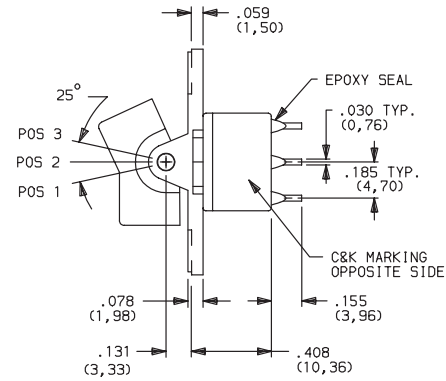
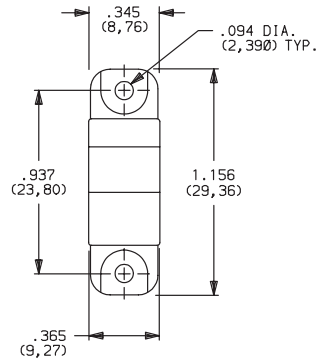
E Series

# Sealed\* Anti-Static Rocker and Lever Handle Switches

\*Process sealed—withstands soldering and cleaning processes.

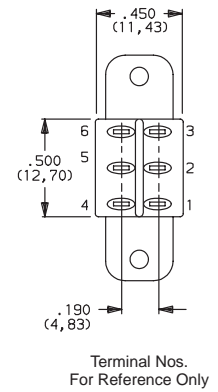
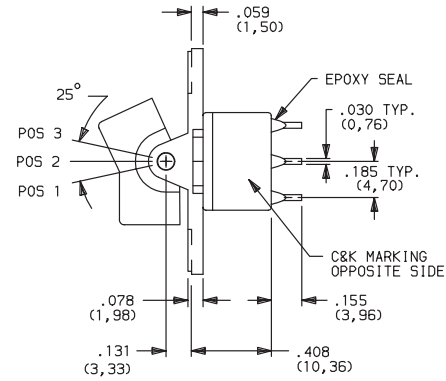
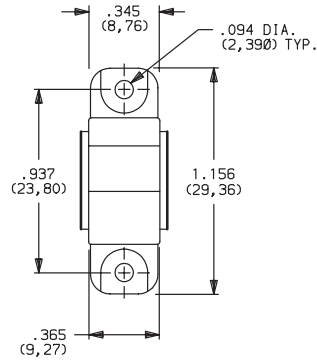
## SWITCHES WITH STANDARD OPTIONS

B



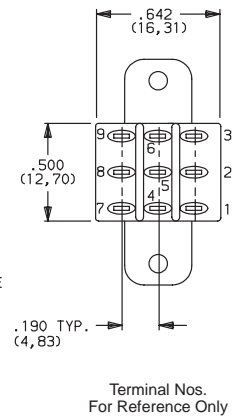
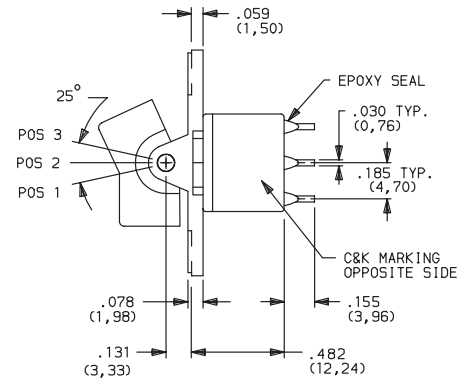
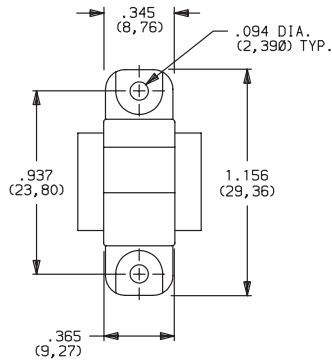
### SPDT Model

Part No. Shown: E101J1ZBE2



### DPDT Model

Part No. Shown: E201J1ZBE2



### 3PDT Model

Part No. Shown: E301J1ZBE2



COMPONENTS, INC. 57 Stanley Avenue, Watertown, MA 02172 Tel: (617) 926-6400 Fax: (617) 926-6846 Sales: (800) 635-5936



E Series

# Sealed\* Anti-Static Rocker and Lever Handle Switches

\*Process sealed—withstands soldering and cleaning processes.

## SWITCH FUNCTION

NO. POLES	MODEL NO.	SWITCH FUNCTION			CONNECTED TERMINALS			SCHEMATIC
		POS. 1	POS. 2	POS. 3	POS. 1	POS. 2	POS. 3	
SP	E101	ON	NONE	ON	2-3	OPEN	2-1	 SPDT
	E103	ON	OFF	ON				
	E105	MOM.	OFF	MOM.				
	E107	ON	OFF	MOM.				
	E108	ON	NONE	MOM.				
DP	E201	ON	NONE	ON	2-3,5-6	OPEN	2-1,5-4	 DPDT
	E203	ON	OFF	ON				
	E205	MOM.	OFF	MOM.				
	E207	ON	OFF	MOM.	2-3,5-6	2-3,5-4	2-1,5-4	
	E208	ON	NONE	MOM.				
	E211**	ON	ON	ON				
	E213**	ON	ON	MOM.				
E215**	MOM.	ON	MOM.					
3P	E301	ON	NONE	ON	2-3,5-6,8-9	OPEN	2-1,5-4,8-7	 3PDT
	E303	ON	OFF	ON				
	E305	MOM.	OFF	MOM.				
	E307	ON	OFF	MOM.				
	E308	ON	NONE	MOM.				

MOM. = Momentary

\*\* Wiring for 3-way switch, see page X.

All models with all options when ordered with G, L, M or Q contact material.

See AGENCY APPROVALS, page VIII.

B

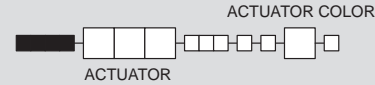


E Series

# Sealed\* Anti-Static Rocker and Lever Handle Switches

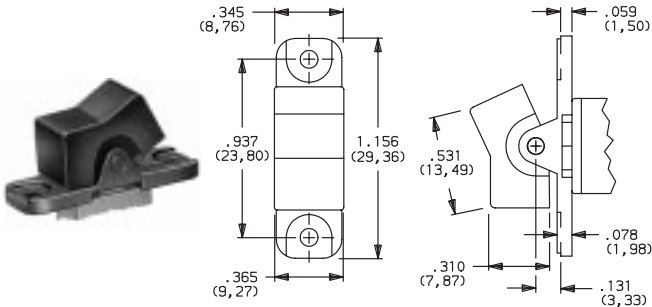
\*Process sealed—withstands soldering and cleaning processes.

## ACTUATOR—PANEL REAR MOUNT

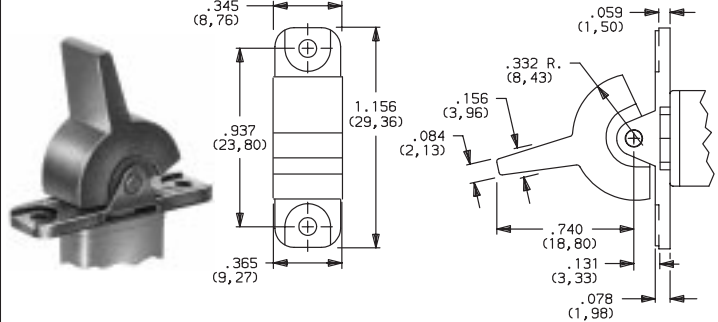


B

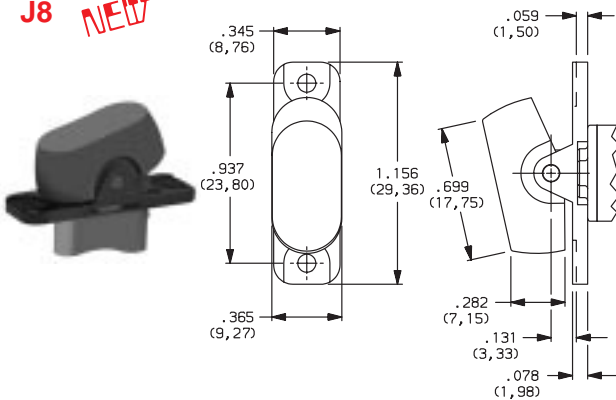
**J1** (STD.)



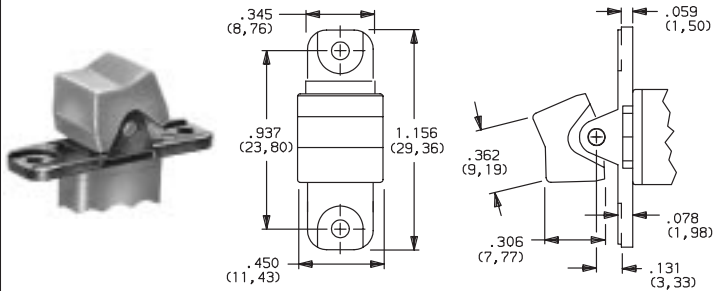
**J2**



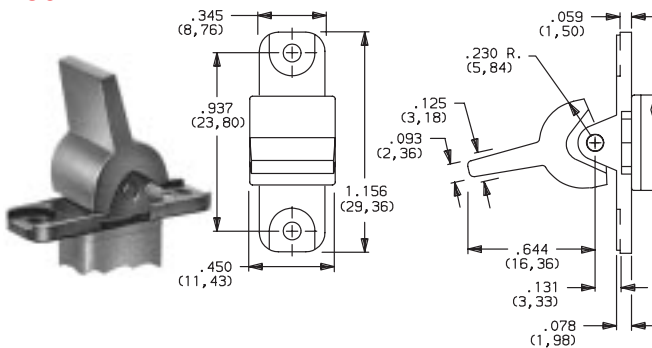
**J8** *NEW*



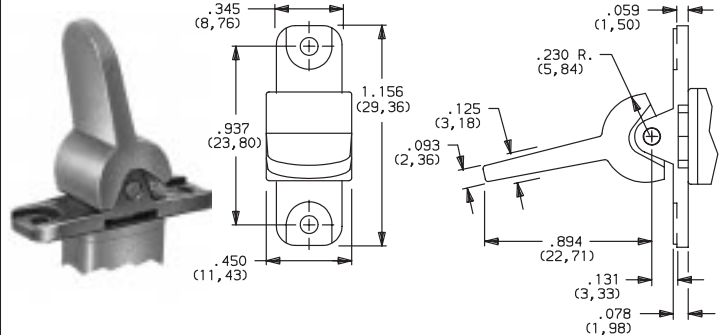
**J54**



**J64**



**J94**



### ACTUATOR COLOR

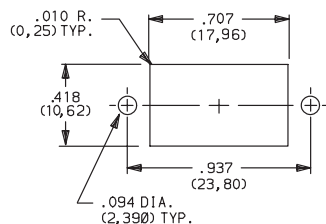
OPTION CODE	COLOR
1	WHITE
2	BLACK (Std.)
3	RED

Finish: Matte. Other colors, custom actuator markings and legends available, consult factory.

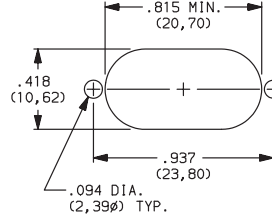
**NOTE:** Mounting hardware included, see HOW TO ORDER, page B-45. Internal o-ring actuator seal standard. Actuators and hardware are available separately, see section K. Available with C, W-W5, Z or Z3 terminations.

### PANEL MOUNTING

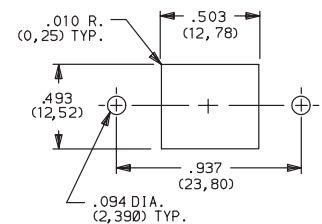
J1 & J2 Actuators



J8 Actuator



J54, J64 & J94 Actuators



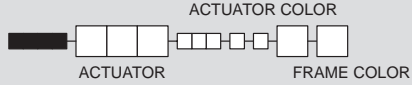


E Series

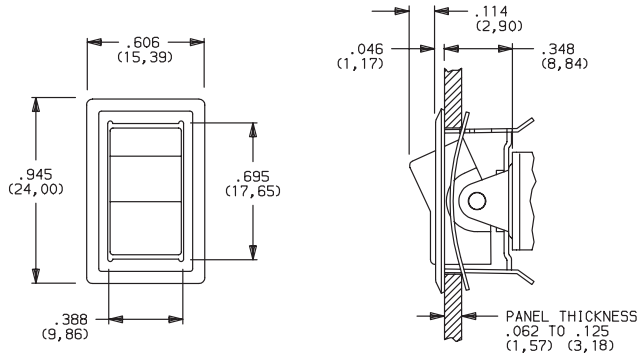
# Sealed\* Anti-Static Rocker and Lever Handle Switches

\*Process sealed—withstands soldering and cleaning processes.

## ACTUATOR—REAR MOUNT



J11



NOTE: This option has reduced anti-static capability.

### ACTUATOR COLOR

OPTION CODE	COLOR
1	WHITE
2	BLACK (Std.)
3	RED

### FRAME COLOR

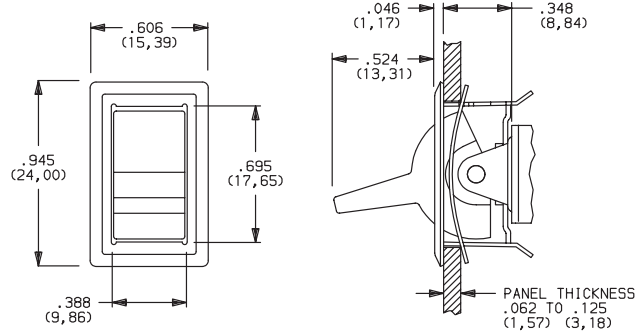
OPTION CODE	COLOR
1	WHITE
2	BLACK (Std.)
C	BRIGHT CHROME
S	SATIN CHROME

Actuator finish: Matte, frame finish: gloss. Other colors, custom actuator markings and legends available, consult factory.

NOTE: Internal o-ring actuator seal standard. Frames are available separately, see section K. Available with C, W-W5, Z & Z3 terminations.

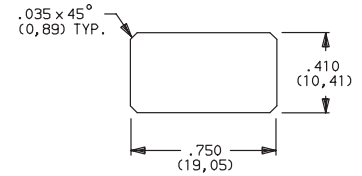
B

J21

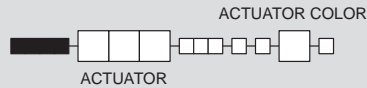


NOTE: This option has reduced anti-static capability.

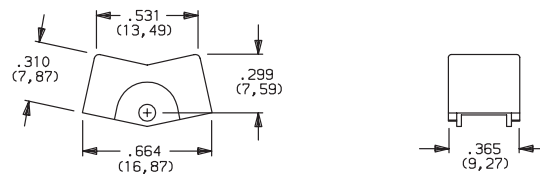
### PANEL MOUNTING



## ACTUATOR—PC MOUNT



J1

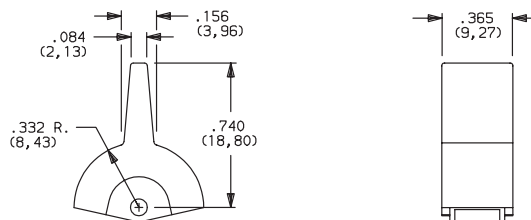


### ACTUATOR COLOR

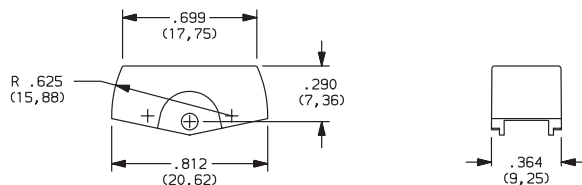
OPTION CODE	COLOR
1	WHITE
2	BLACK (Std.)
3	RED

Finish: Matte. Other colors, custom actuator markings and legends available, consult factory.

J2



J8 **NEW**



NOTE: Mounting hardware included, see HOW TO ORDER, page B-45. Internal o-ring actuator seal standard. Actuators and hardware are available separately, see section K. Available with A, A3, AV2-AV5, V2-V91 & AW-AW5 terminations.

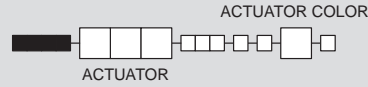


E Series

# Sealed\* Anti-Static Rocker and Lever Handle Switches

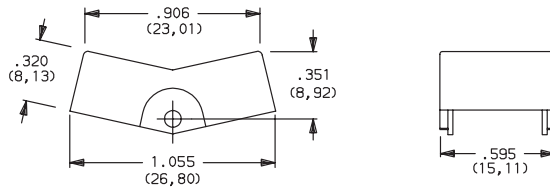
\*Process sealed—withstands soldering and cleaning processes.

## ACTUATOR—PC MOUNT

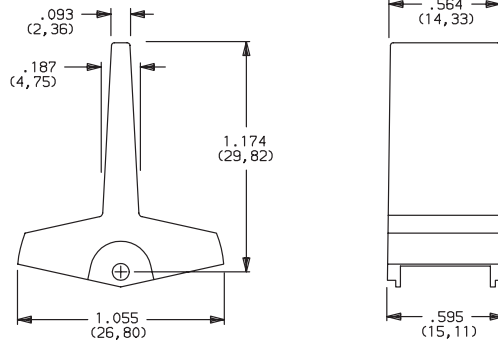


B

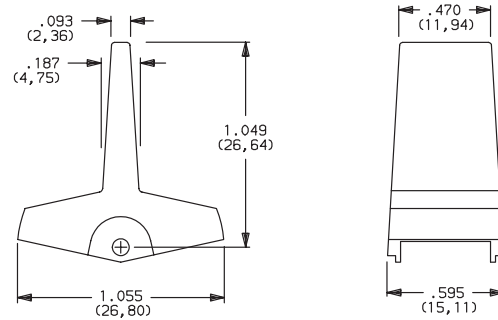
J3



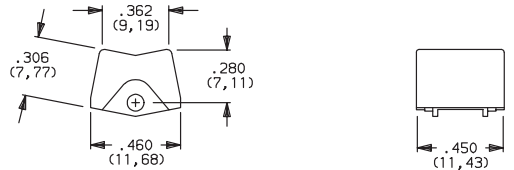
J4



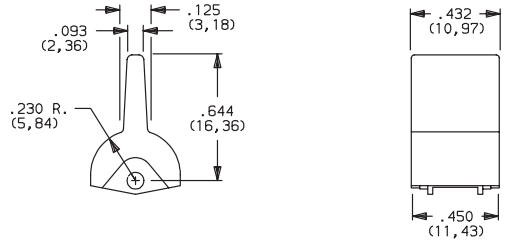
J5



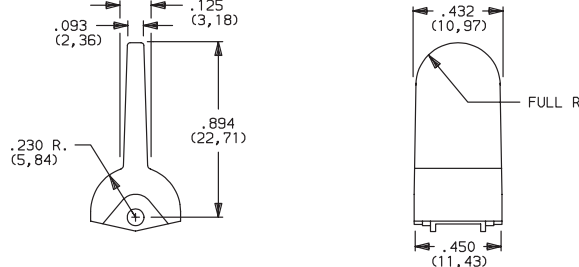
J50



J60



J90



### ACTUATOR COLOR

OPTION CODE	COLOR
1	WHITE
2	BLACK (Std.)
3	RED

Finish: Matte. Other colors, custom actuator markings and legends available, consult factory.

**NOTE:** Mounting hardware included, see HOW TO ORDER, page B-45. Internal o-ring actuator seal standard. Actuators and hardware are available separately, see section K.

J3, J4 & J5 actuators available with AV2-AV5 & V2-V91 terminations. Some permissible actuator/termination combinations may lack clearance between actuator and PC board, and care must be exercised to accommodate this condition.

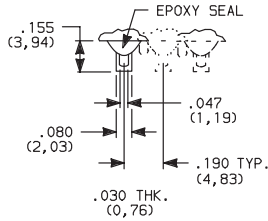
J50, J60 & J90 actuators available with A (DP, 3P models only), A3 (DP, 3P models only), AV2-AV5 & AW-AW5 (DP, 3P models only) terminations.



\*Process sealed—withstands soldering and cleaning processes.

**TERMINATIONS**

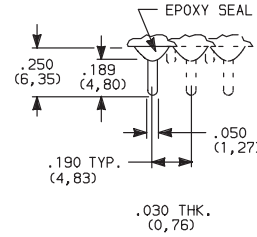
**Z (STD.)**



**NOTE:** B contact material standard. Not available with K, L or M contact materials. Available actuators, see page B-34.

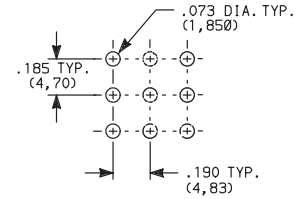
**SPDT thru 3PDT Models**

**C**



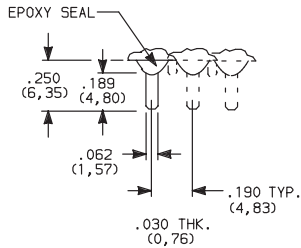
**SPDT thru 3PDT Models**

**PC MOUNTING**



**NOTE:** B contact material standard. Available actuators, see pages B-35 and B-36.

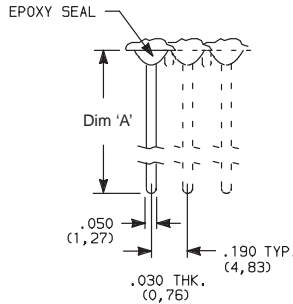
**Z3 QUICK CONNECT**



**NOTE:** B contact material standard. Not available with K, L or M contact materials. Available actuators, see pages B-35 and B-36. Mating quick connector available; order P/N: 530100000.

**SPDT thru 3PDT Models**

**W, W1, W3, W4, W5 WIRE WRAP**



**SPDT thru 3PDT Models**

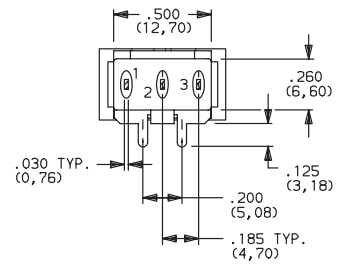
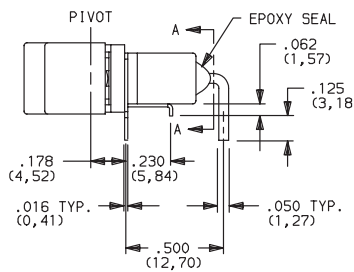
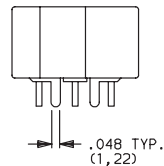
OPTION CODE	DIM 'A'
<b>W</b>	.750 (19,05)
<b>W1</b>	.964 (24,48)
<b>W3</b>	.425 (10,80)
<b>W4</b>	1.062 (26,97)
<b>W5</b>	1.305 (33,15)

**NOTE:** B contact material standard. Available actuators, see pages B-35 and B-36.

**A**



Actuator Shown In Pos. 1



SECTION A-A

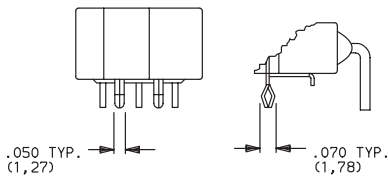
Terminal Nos. For Reference Only

**NOTE:** Terminal bend radii and lead-in manufacturing option. B contact material standard. Available actuators, see pages B-35 and B-36.

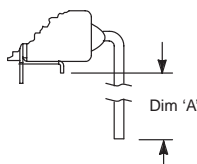
**SPDT Model**

Part No. Shown: E101J1ABE2

**A3 SNAP-IN**

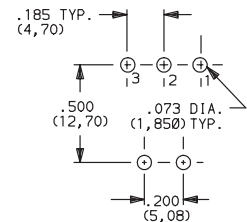


**AW, AW1, AW3, AW4, AW5 EXTENDED**



OPTION CODE	DIM 'A'
<b>AW</b>	.44 (11,2)
<b>AW1</b>	.66 (16,8)
<b>AW3</b>	.14 (3,6)
<b>AW4</b>	.77 (19,6)
<b>AW5</b>	1.02 (25,9)

**PC MOUNTING**



**NOTE:** PC mounting pattern must clear switch support leg.



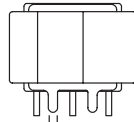
E Series

# Sealed\* Anti-Static Rocker and Lever Handle Switches

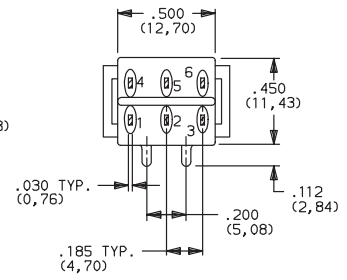
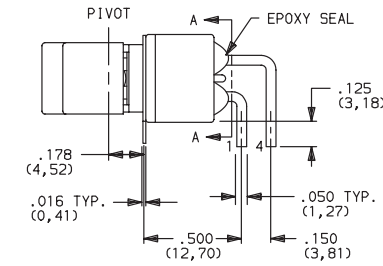
\*Process sealed—withstands soldering and cleaning processes.

## TERMINATIONS

A



Actuator Shown In Pos. 1



SECTION A-A

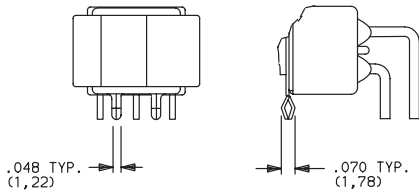
Terminal Nos. For Reference Only

NOTE: Terminal bend radii and lead-in manufacturing option. B contact material standard. Available actuators, see pages B-35 and B-36.

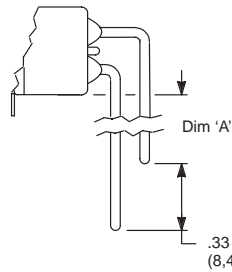
### DPDT Model

Part No. Shown: E201J1ABE2

#### A3 SNAP-IN

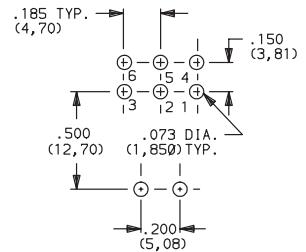


#### AW, AW1, AW4, AW5 EXTENDED

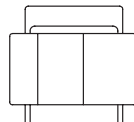


OPTION CODE	DIM 'A'
AW	.21 (5,3)
AW1	.42 (10,7)
AW4	.52 (13,2)
AW5	.76 (19,3)

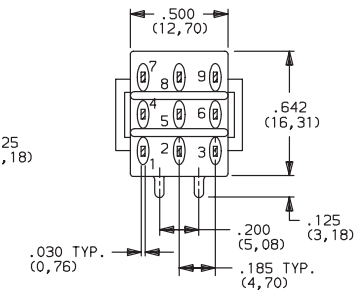
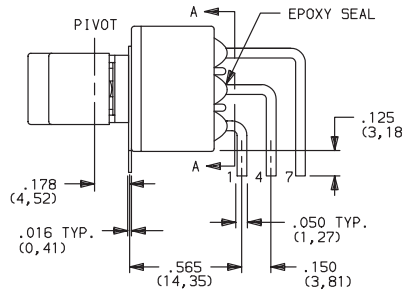
#### PC MOUNTING



A



Actuator Shown In Pos. 1



SECTION A-A

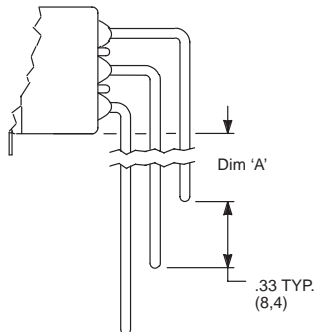
Terminal Nos. For Reference Only

NOTE: Terminal bend radii and lead-in manufacturing option. B contact material standard. Available actuators, see pages B-35 and B-36.

### 3PDT Model

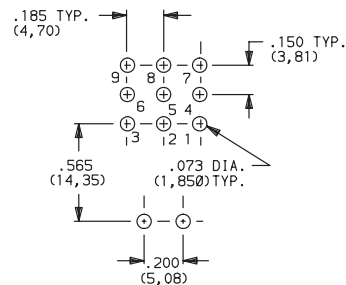
Part No. Shown: E301J1ABE2

#### AW4, AW5 EXTENDED



OPTION CODE	DIM 'A'
AW4	.18 (4,6)
AW5	.42 (10,7)

#### PC MOUNTING







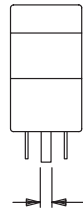
E Series

# Sealed\* Anti-Static Rocker and Lever Handle Switches

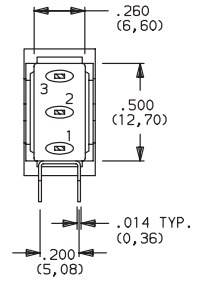
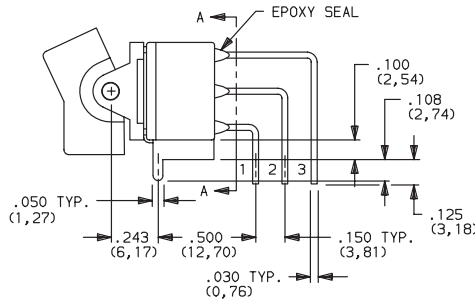
\*Process sealed—withstands soldering and cleaning processes.

## TERMINATIONS

AV2



Actuator Shown In Pos. 1



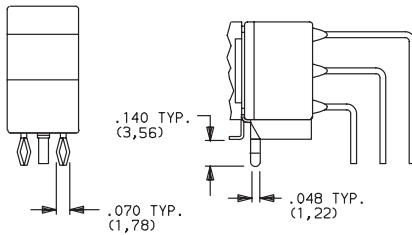
B

SPDT Model

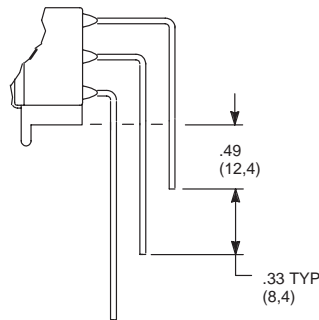
Part No. Shown: E101J1AV2BE2

NOTE: Terminal bend radii and lead-in manufacturing option. B contact material standard. Available actuators, see pages B-35 and B-36.

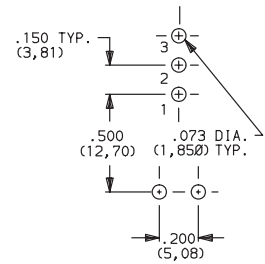
AV3 SNAP-IN



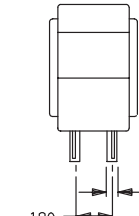
AV5 EXTENDED



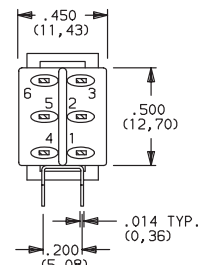
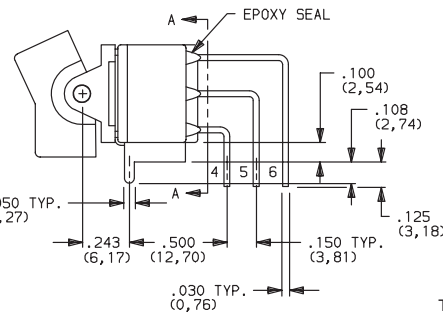
PC MOUNTING



AV2



Actuator Shown In Pos. 1



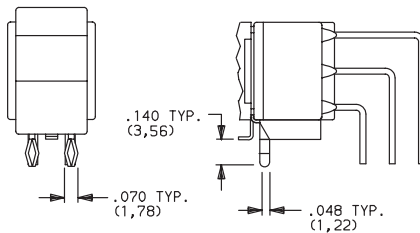
Terminal Nos. For Reference Only

NOTE: Terminal bend radii and lead-in manufacturing option. B contact material standard. Available actuators, see pages B-35 and B-36.

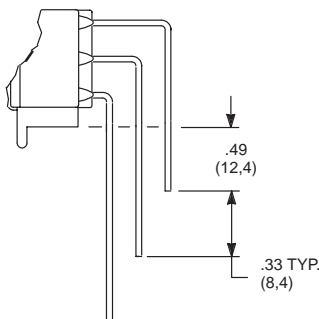
DPDT Model

Part No. Shown: E201J1AV2BE2

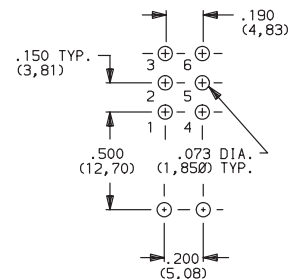
AV3 SNAP-IN



AV5 EXTENDED



PC MOUNTING

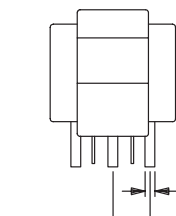




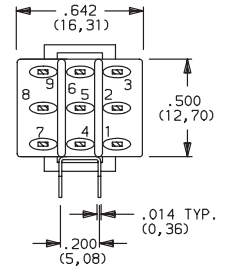
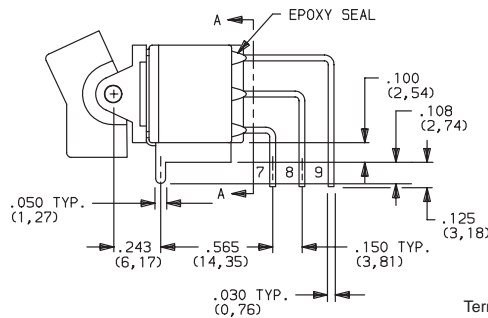
\*Process sealed—withstands soldering and cleaning processes.

## TERMINATIONS

### AV2



Actuator Shown In Pos. 1



SECTION A-A

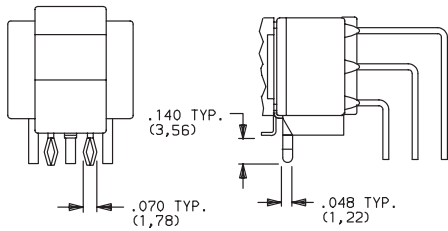
Terminal Nos. For Reference Only

**NOTE:** Terminal bend radii and lead-in manufacturing option. B contact material standard. Available actuators, see pages B-35 and B-36.

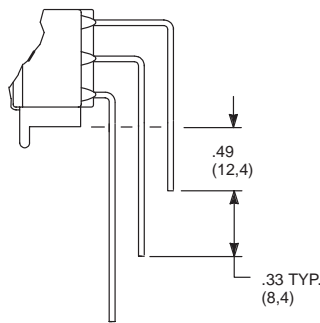
### 3PDT Model

Part No. Shown: E301J1AV2BE2

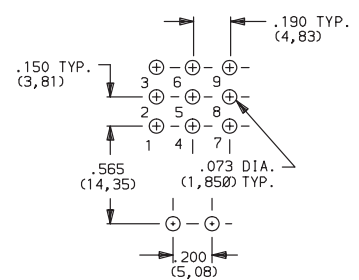
### AV3 SNAP-IN



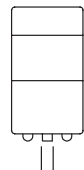
### AV5 EXTENDED



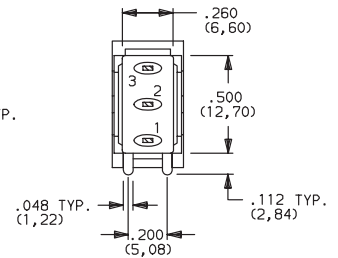
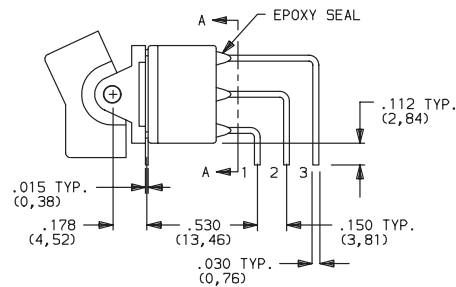
### PC MOUNTING



### V5



Actuator Shown In Pos. 1



SECTION A-A

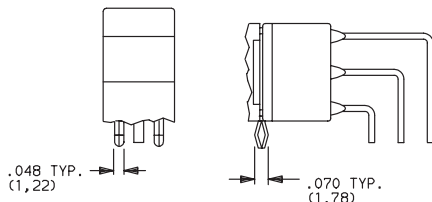
Terminal Nos. For Reference Only

**NOTE:** Terminal bend radii and lead-in manufacturing option. B contact material standard. Available actuators, see pages B-35 and B-36.

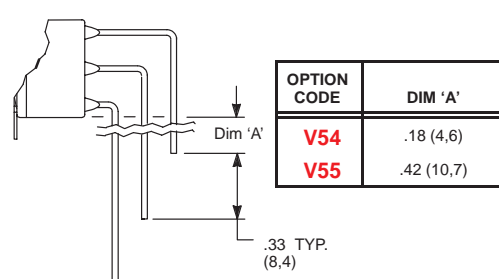
### SPDT Model

Part No. Shown: E101J1V5BE2

### V51 SNAP-IN

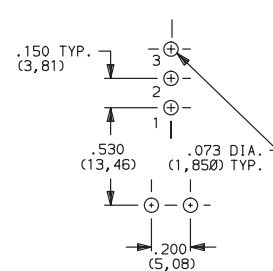


### V54, V55 EXTENDED



OPTION CODE	DIM 'A'
V54	.18 (4,6)
V55	.42 (10,7)

### PC MOUNTING





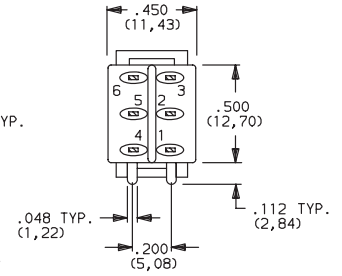
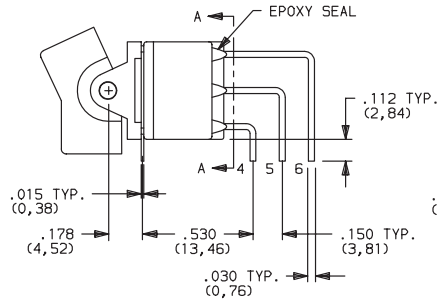
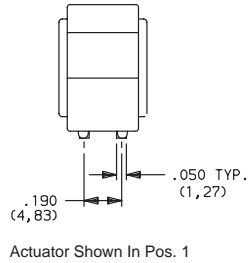
E Series

# Sealed\* Anti-Static Rocker and Lever Handle Switches

\*Process sealed—withstands soldering and cleaning processes.

## TERMINATIONS

V5



SECTION A-A

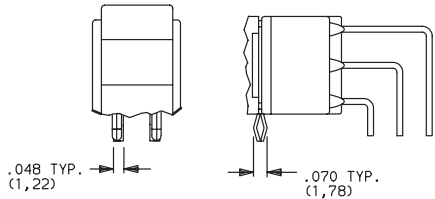
Terminal Nos. For Reference Only

**NOTE:** Terminal bend radii and lead-in manufacturing option. B contact material standard. Available actuators, see pages B-35 and B-36.

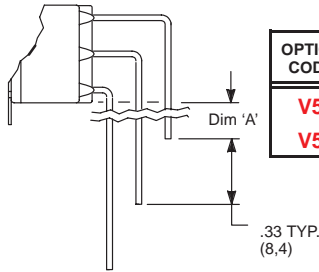
DPDT Model

Part No. Shown: E201J1V5BE2

V51 SNAP-IN

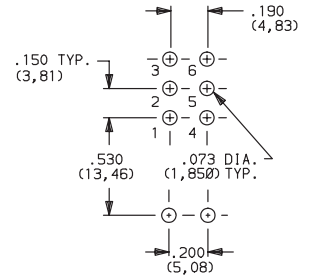


V54, V55 EXTENDED

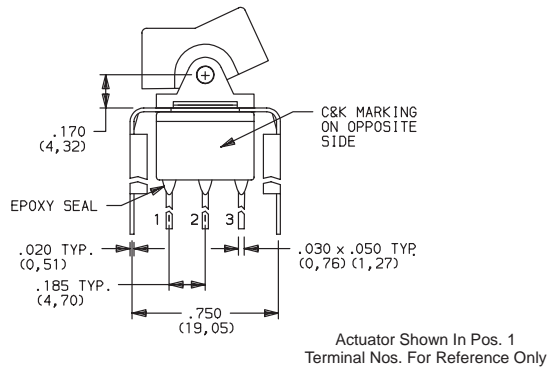


OPTION CODE	DIM 'A'
V54	.18 (4,6)
V55	.42 (10,7)

PC MOUNTING

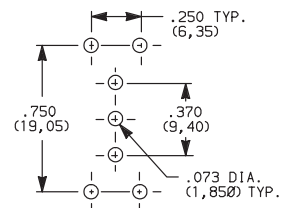


V2, V6, V7, V8



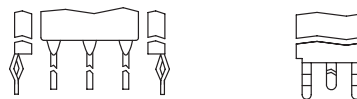
Part No. Shown: E101J1\_\_BE2

PC MOUNTING



**NOTE:** B contact material standard. Available actuators, see pages B-35 and B-36.

V21, V61, V71, V81 SNAP-IN



OPTION CODE	DIM 'A'
V2, V21	.555 (14,10)
V6, V61	.460 (11,68)
V7, V71	.630 (16,00)
V8, V81	.953 (24,21)

SPDT Model

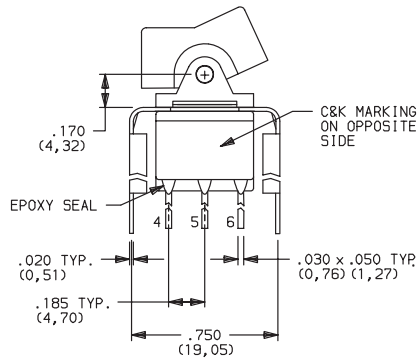
\*Process sealed—withstands soldering and cleaning processes.

## TERMINATIONS

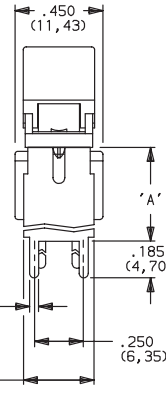
**B**



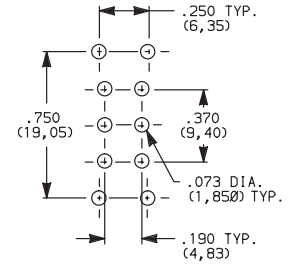
### V2, V6, V7, V8



Actuator Shown In Pos. 1  
Terminal Nos. For Reference Only  
Part No. Shown: E201J1\_\_BE2

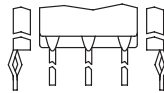


#### PC MOUNTING



**NOTE:** B contact material standard. Available actuators, see pages B-35 and B-36.

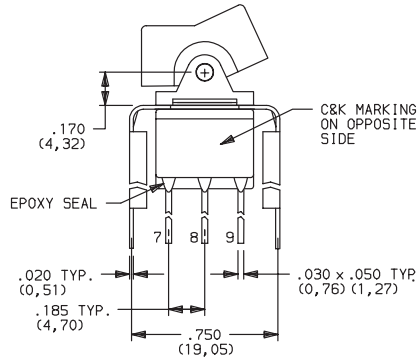
### V21, V61, V71, V81 SNAP-IN



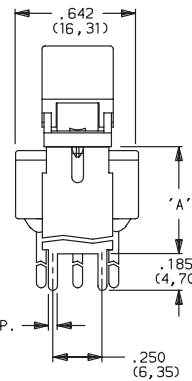
OPTION CODE	DIM 'A'
<b>V2, V21</b>	.555 (14,10)
<b>V6, V61</b>	.460 (11,68)
<b>V7, V71</b>	.630 (16,00)
<b>V8, V81</b>	.953 (24,21)

DPDT Model

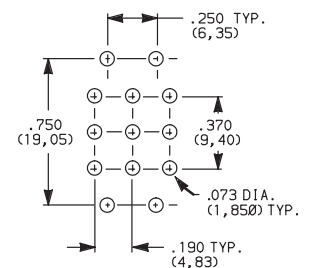
### V2, V7, V8



Actuator Shown In Pos. 1  
Terminal Nos. For Reference Only  
Part No. Shown: E301J1\_\_BE2

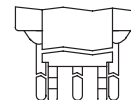
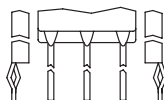


#### PC MOUNTING



**NOTE:** B contact material standard. Available actuators, see pages B-35 and B-36.

### V21, V71, V81 SNAP-IN



OPTION CODE	DIM 'A'
<b>V2, V21</b>	.555 (14,10)
<b>V7, V71</b>	.630 (16,00)
<b>V8, V81</b>	.953 (24,21)

3PDT Model



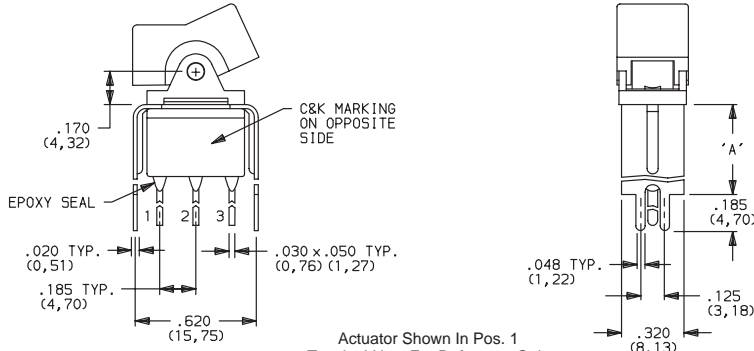
E Series

# Sealed\* Anti-Static Rocker and Lever Handle Switches

\*Process sealed—withstands soldering and cleaning processes.

## TERMINATIONS

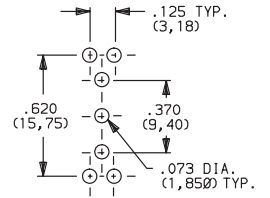
### V3, V4, V9



Actuator Shown In Pos. 1  
Terminal Nos. For Reference Only

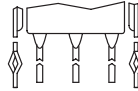
Part No. Shown: E101J1\_\_BE2

### PC MOUNTING



NOTE: B contact material standard. Available actuators, see pages B-35 and B-36.

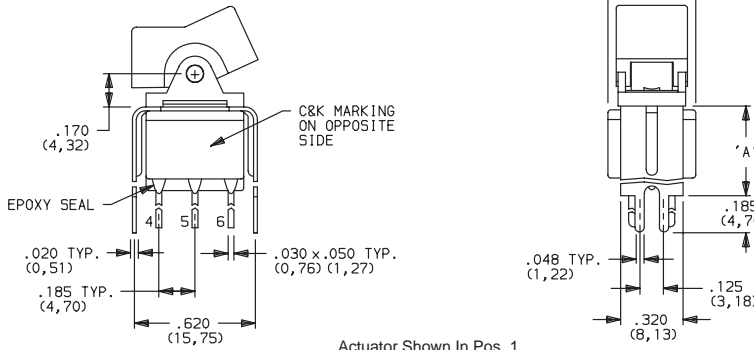
### V31, V41, V91 SNAP-IN



OPTION CODE	DIM 'A'
V3, V31	.460 (11,68)
V4, V41	.630 (16,00)
V9, V91	1.150 (29,21)

SPDT Model

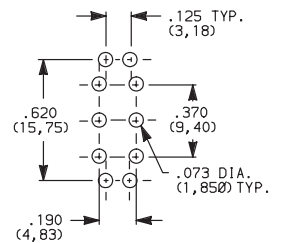
### V3, V4, V9



Actuator Shown In Pos. 1  
Terminal Nos. For Reference Only

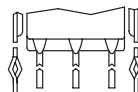
Part No. Shown: E201J1\_\_BE2

### PC MOUNTING



NOTE: B contact material standard. Available actuators, see pages B-35 and B-36.

### V31, V41, V91 SNAP-IN



OPTION CODE	DIM 'A'
V3, V31	.460 (11,68)
V4, V41	.630 (16,00)
V9, V91	1.150 (29,21)

DPDT Model



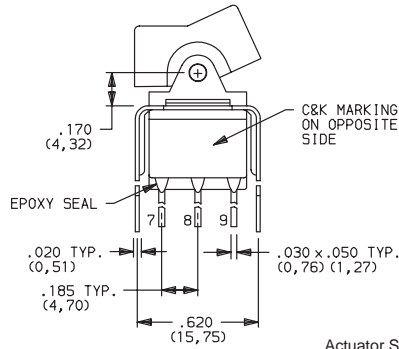
\*Process sealed—withstands soldering and cleaning processes.

## TERMINATIONS

B

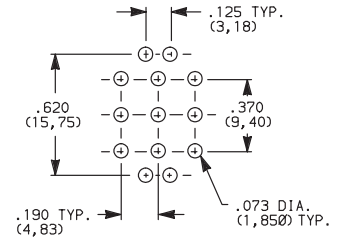


### V4, V9



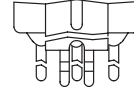
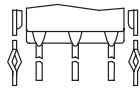
Actuator Shown In Pos. 1  
Terminal Nos. For Reference Only  
Part No. Shown: E301J1\_\_BE2

### PC MOUNTING



NOTE: B contact material standard. Available actuators, see pages B-35 and B-36.

### V41, V91 SNAP-IN



OPTION CODE	DIM 'A'
V4, V41	.630 (16,00)
V9, V91	1.150 (29,21)

3PDT Model

## 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.
K		TIN-LEAD 6		
Q	SILVER 4,5	SILVER 5	POWER	E1XX & E2XX MODELS: 7.5 AMPS @ 125 V AC OR 28 V DC; 3 AMPS @ 250 V AC; E3XX MODELS: 5 AMPS @ 125 V AC OR 28 V DC; 2 AMPS @ 250 V AC.
M		TIN-LEAD 6		
G	GOLD OVER SILVER 2,3	GOLD 3	LOW LEVEL / DRY CIRCUIT OR POWER	E1XX AND E2XX MODELS: 0.4 VA MAX @ 20 V AC OR DC MAX. OR 7.5 AMPS @ 125 V AC OR 28 V DC; 3 AMPS @ 250 V AC. E3XX MODELS: 0.4 VA MAX. @ 20 V AC OR DC MAX. OR 5 AMPS @ 125 V AC OR 28 V DC; 2 AMPS @ 250 V AC.
L		TIN-LEAD 6		

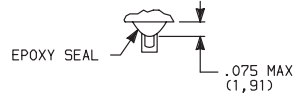
CONTACT MATERIAL / APPLICATION RECOMMENDATIONS – SEE CHART, PAGE X.

- 1 CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate.
- 2 END CONTACTS: Coin silver, with gold plate over nickel plate.
- 3 CENTER CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate.
- 4 END CONTACTS: Coin silver, silver plated.
- 5 CENTER CONTACT & ALL TERMINALS: Copper alloy, silver plated.
- 6 TERMINALS: Copper alloy, with tin-lead alloy over nickel plate.

All models with all options when ordered with G, L, M or Q contact material. See AGENCY APPROVALS, page VIII.

B contact material standard with all terminations.  
K, L & M contact materials not available with Z & Z3 terminations.



**SEAL** **E** (STD.)**B**

## HOW TO ORDER

All available E SERIES SEALED ANTI-STATIC ROCKER AND LEVER HANDLE SWITCH options are listed on page B-31 and are described on pages B-33 thru B-45. Switches with standard options are shown on page B-32. When selecting options and building a part number, some ordering format boxes may not be filled. Dashes, hyphens or spaces in the part number are not significant, and are shown for clarity only. All models are process sealed to withstand machine soldering temperatures and pressure wash cleaning methods. Hardware: two each—mounting screws, nuts, lockwashers and standoffs for 1/8 in. thick panel are supplied standard on switches with panel mounting bracket. Hardware for other panel thicknesses also available. Actuators, frames and mounting hardware are available separately, see section K.

## SPECIFICATIONS

**CONTACT RATING:** 0.4 VA max. @ 20 V AC or DC max.  
(B contact material).

**ELECTRICAL LIFE:** E1XX and E2XX models: 40,000 make-and-break cycles at full load. E3XX models: 30,000 cycles.

**CONTACT RESISTANCE:** Below 10 milliohms typ. initial @ 2–4 V DC, 100 mA, for both silver and gold plated contacts.

**INSULATION RESISTANCE:**  $10^9$  ohms min.

**ELECTROSTATIC DISCHARGE (ESD) RESISTANCE:** All actuator options: 15,000 V DC max. @ sea level, actuator to terminals.

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

**OPERATING TEMPERATURE:**  $-30^{\circ}\text{C}$  to  $85^{\circ}\text{C}$ .

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

## MATERIALS

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

**ACTUATOR:** Nylon, black standard, internal o-ring seal standard with all actuators.

**FRAME:** Spring steel, black standard.

**SWITCH SUPPORT:** Brass or steel, tin plated.

**ACTUATOR PIVOT & MOUNTING BRACKET:** Nylon.

**ACTUATOR PIVOT RETAINER:** Stainless steel.

**CONTACTS & TERMINALS:** Copper alloy, with gold plate over nickel plate (B contact material).

**TERMINAL SEAL:** Epoxy.

**HARDWARE:** Nut, Screw & Lockwasher: Stainless steel.  
Standoff: Nylon standard, aluminum available, consult factory.

**NOTE:** Specifications and materials listed above are general specifications for switches with standard options. For information on specific and custom switches, consult factory.