Features/Benefits

- Sealed against solder and cleaning process contaminants
- ESD Resistance—all actuator options
- Rocker, case & bushing UL 94V-0
- RoHS compliant

Typical Applications

- **Telecommunications**
- Instrumentation
- Computers & peripherals





Specifications

CONTACT RATING: B contact material: 0.4 VA max. @ 20 V AC or DC max. Q contact material (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. See page G-36 for additional ratings.

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

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

INSULATION RESISTANCE: $10^9 \Omega$ min.

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

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).

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, matte-tin plated.

ACTUATOR PIVOT & MOUNTING BRACKET: Nylon.

ACTUATOR PIVOT RETAINER: Stainless steel.

CONTACTS & TERMINALS: B contact material: Copper alloy, with gold plate over nickel plate. Q contact material: Copper alloy, silver plated. See page G-36 for additional contact materials.

TERMINAL SEAL: Epoxy.

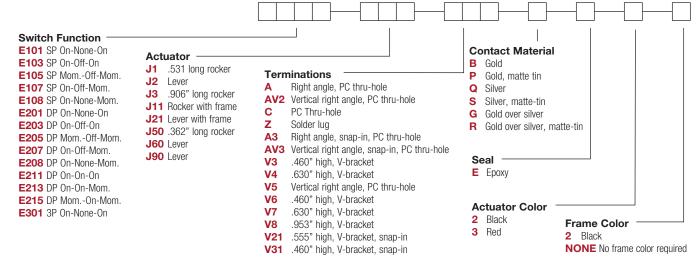
HARDWARE: Nut, Screw & Lockwasher: Stainless steel. Standoff: Nylon standard, aluminum available, consult Customer

NOTE: Any models supplied with Q, B, G, S, P & R 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.

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 G-26 through G-38. For additional options not shown in catalog, consult Customer Service Center. All models are process sealed to withstand machine soldering temperatures and pressure wash cleaning methods.



G-26

Metal Frame Color (J11, J21 Actuators)

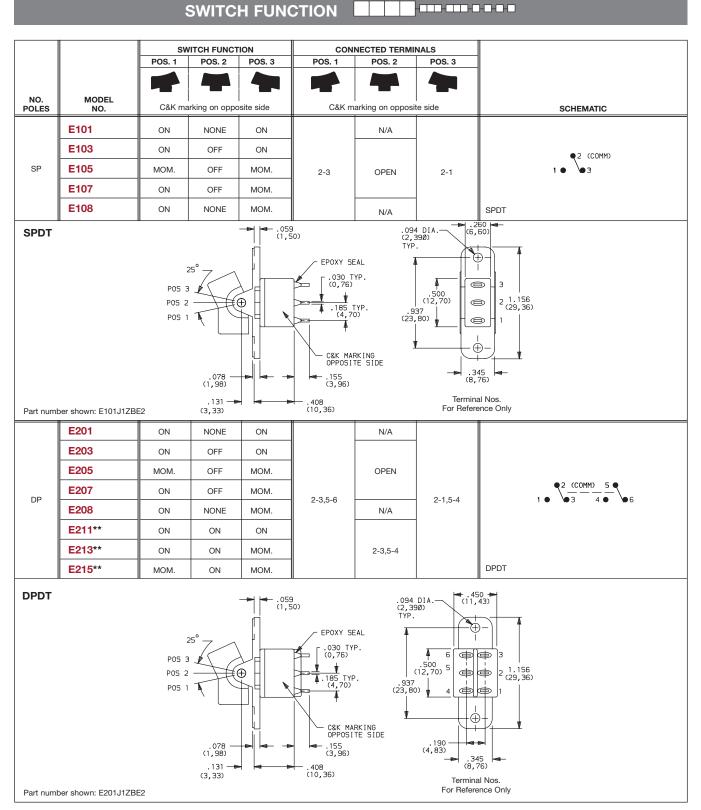
2 Black





E Series

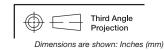
Sealed Miniature Rocker and Lever Handle Switches



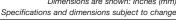
MOM. = Momentary
All models couls

** Wiring for 3-way switch, Hardware available seperately, see Technical Data section of this catalog.

with all options when ordered with G, Q, R or S contact material.







E Series **Sealed Miniature Rocker and Lever Handle Switches**

----**SWITCH FUNCTION**

		sv	VITCH FUNCT	TION	CON	NECTED TERMI	NALS	
		POS. 1	POS. 2	POS. 3	POS. 1	POS. 2	POS. 3	
			4	4			4	
NO. POLES	MODEL NO.	C&K ma	arking on oppo	site side	C&K m	arking on opposi	te side	SCHEMATIC
3P	E301	ON	NONE	ON	2-3,5-6,8-9	N/A	2-1,5-4,8-7	1 • 2 5 • (COMM) 8 • 9 3PDT
3PDT		25 POS 3 POS 2 POS 1	.078	.059	.030 TY((0,76) .185 T (4,70) .155 (3,96)	2. (0.937) (23,8) (23,8) (27) (25) (25) (25) (25) (25) (25) (25) (25	0) v 7	3 2 1.156 (29,36) 1 Terminal Nos.
Part numb	oer shown: E301J1ZBE	£2	(1,98) .131 —► (3,33)	•	(3,96) 482 (12,24)	.190 (4,8	O TYP. — ■ ■ 33)	TYP.

MOM. = Momentary

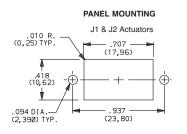
All models calls with all options when ordered with G, Q, R and S contact material.

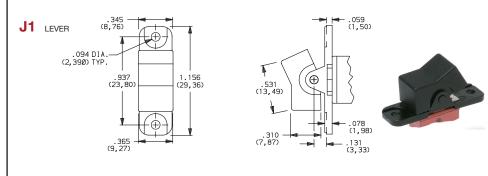
ACTUATOR-PANEL REAR MOUNT

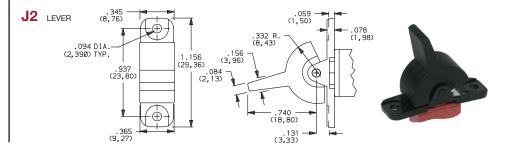
OPTION CODE	ACTUATOR COLOR
2	BLACK
3	RED

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 switches with panel mounting bracket. Internal o-ring actuator seal standard. Actuators available separately, see page G-36. Hardware available separately, see Technical Data section of this catalog. J1, J2 actua-tors available with C, Z or Z3 terminations.









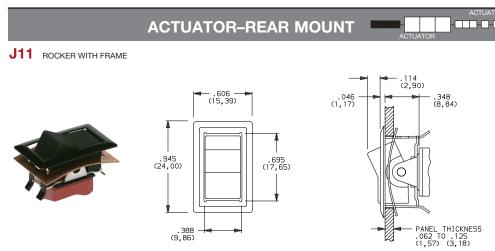




^{**} Wiring for 3-way switch, see Technical Data section of this catalog.

E Series

Sealed Miniature Rocker and Lever Handle Switches



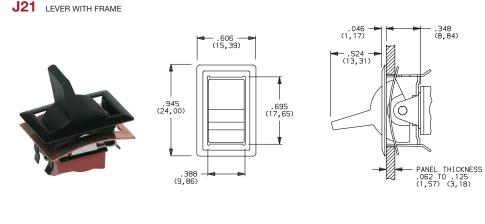
NOTE: This option has reduced anti-static capability

OPTION CODE	ACTUATOR COLOR
2	BLACK
3	RED

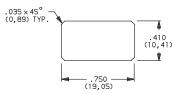
OPTION CODE	FRAME COLOR
2	BLACK

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

NOTE: Internal o-ring actuator seal standard. Actuators & frames available separately, see page G-36. Hardware available seperately, see Technical Data section of this catalog. N. J11 & J21 actuators available with C, Z & Z3 terminations.



PANEL MOUNTING

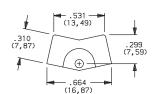


NOTE: This option has reduced anti-static capability.



J1 ROCKER



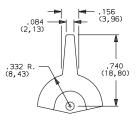


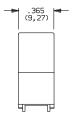


OPTION CODE	ACTUATOR COLOR
2	BLACK
3	RED

J2 LEVER

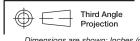






Finish: Matte. Other colors, custom actuator markings and legends available, consult Customer Service Center.

NOTE: Hardware: two each-mounting screws, nuts, lockwashers and standoffs for 1/8 inch thick panel are supplied standard on switches with panel mounting bracket. Internal o-ring actuator seal standard. Actuators available separately, see page G-36. Hardware available seperately, see Technical Data section of this catalog. J1, J2 actuators available with A, A3, AV2, AV3, V2-V61 terminations.





Sealed Miniature Rocker and Lever Handle Switches

ACTUATOR-PC MOUNT

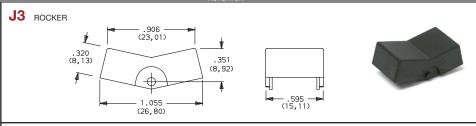
OPTION CODE	ACTUATOR COLOR
2	BLACK
3	RED

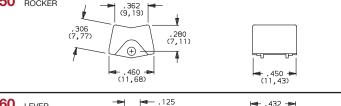
Finish: Matte. Other colors, custom actuator markings and legends available, consult Customer Service Center.

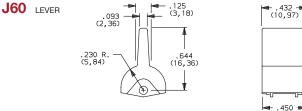
NOTE: Hardware: two each-mounting screws. nuts, lockwashers and standoffs for 1/8 inch thick panel are supplied standard on switches with panel mounting bracket. Internal o-ring actuator seal standard. Actuators available separately, see page G-36. Hardware available seperately, see Technical Data section of this

J3 actuators available with AV2, AV3 & V2-V61 terminations. Some permissible actuator/termination combinations may lack clearance between actuator and PC board, and care must be exercised to accommodate this condition.

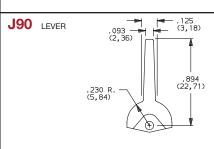
J50, J60 & J90 actuators available with A, AV2, AV3, V2 - V61 terminations.

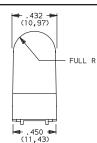












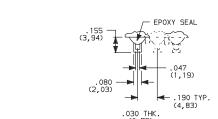


TERMINATIONS

J50 ROCKER

C PC THRU-HOLE

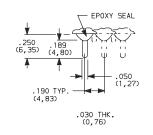
G-30



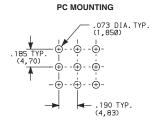
SPDT thru 3PDT

Z SOLDER LUG

Not available with P, S, & R contact materials. Available actuators, see page G-27-28.



SPDT thru 3PDT



Third Angle Projection

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



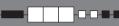


G

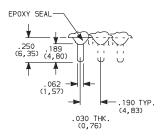
E Series

Sealed Miniature Rocker and Lever Handle Switches

TERMINATIONS







SPDT thru 3PDT

Not available with P, S, & R contact materials. Available actuators, see pages G-27 thru G-28. Mating quick connector available; order part number 530100000, page G-37.

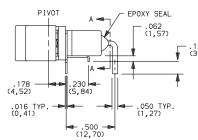
A RIGHT ANGLE, PC THRU-HOLE

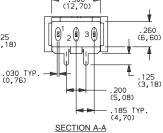


E101J1ABE2 Horizontal Actuation **SPDT**



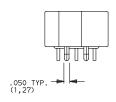
Actuator Shown In Pos. 1





PC MOUNTING

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



NOTE: Not available with J3, J50, J60 and J90 actuators. Available actuators, see pages G-27 thru G-29. Terminal bend radii and lead-in manufacturing option.



- ⊕ -

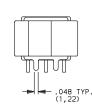
NOTE: PC mounting pattern must clear switch support leg.

(12,70)

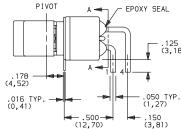
A RIGHT ANGLE, PC THRU-HOLE



E201J1ABE2 Horizontal Actuation **DPDT**



Actuator Shown In Pos. 1

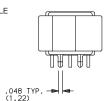


.030 TYP.

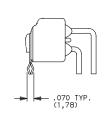
SECTION A-A

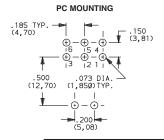
.200 (5,08)

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



NOTE: Not available with J3 actuator. Available actuators, see pages G-27 thru G-29.
Terminal bend radii and lead-in manufacturing option.







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

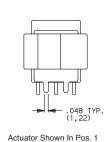


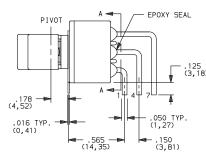
www.ckswitches.com

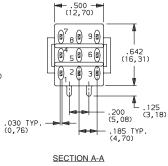
E Series Sealed Miniature Rocker and Lever Handle Switches

TERMINATIONS

A RIGHT ANGLE, PC THRU-HOLE



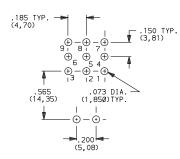






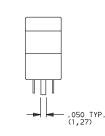
E301J1ABE2 Horizontal Actuation 3PDT

PC MOUNTING

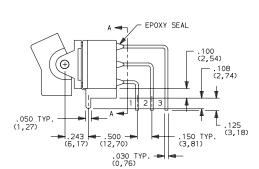


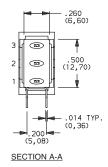
NOTE: Terminal bend radii and lead-in manufacturing option. Available actuators, see pages G-27 thru G-29.

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



Actuator Shown In Pos. 1

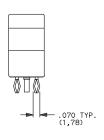


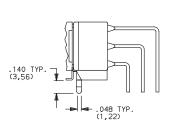




E101J1AV2BE2 Vertical Actuation **SPDT**

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





PC MOUNTING .150 TYP (3,81) ⊕-.500 .073 DIA. (12,70) (1,85Ø) TYP. · · · · · · 1.200 (5,08)

NOTE: Terminal bend radii and lead-in manufacturing option. Available actuators, see pages G-27 thru G-29.







E Series

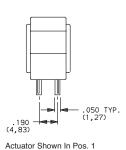
Sealed Miniature Rocker and Lever Handle Switches

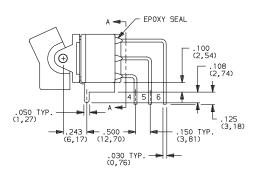
TERMINATIONS

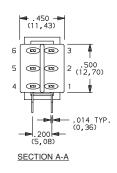
AV2 VERTICAL RIGHT ANGLE, PC THRU-HOLE,



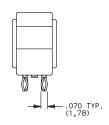
E201J1AV2BE2 Vertical Actuation **DPDT**

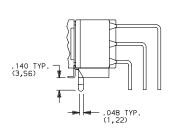






AV3 VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, .150" PITCH

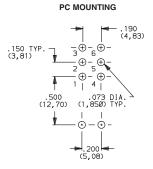




EPOXY SEAL

.100 (2,54)

.150 TYP. (3,81)

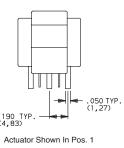


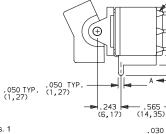
NOTE: Terminal bend radii and lead-in manufacturing option. Available actuators, see pages G-27 thru G-29.

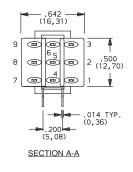
AV2 VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH



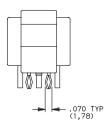
E301J1AV2BE2 Vertical Actuation 3PDT

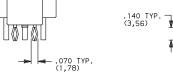


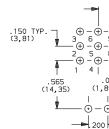


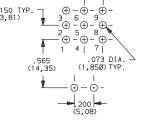


AV3 VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, .150" PITCH









PC MOUNTING



Third Angle Projection

.190 TYP. (4,83)

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

NOTE: Terminal bend radii and lead-in manufacturing option. Available actuators, see pages G-27 thru G-29.

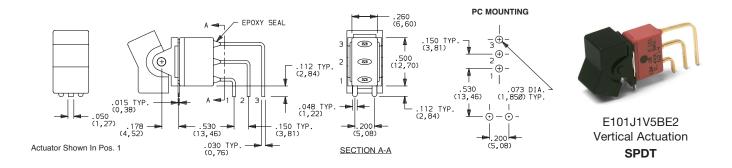


.048 TYP.

E Series **Sealed Miniature Rocker and Lever Handle Switches**

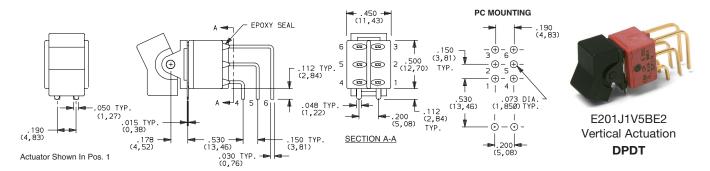
TERMINATIONS

V5 VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH



NOTE: Terminal bend radii and lead-in manufacturing option. Available actuators, see pages G-27 thru G-29.

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



NOTE: Terminal bend radii and lead-in manufacturing option. Available actuators, see pages G-27 thru G-29.







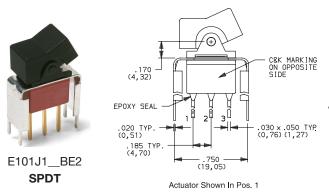
E Series

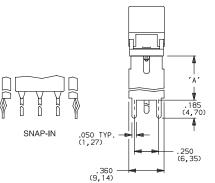
Sealed Miniature Rocker and Lever Handle Switches

TERMINATIONS



V21 VERTICAL MOUNT, V-BRACKET, SNAP-IN





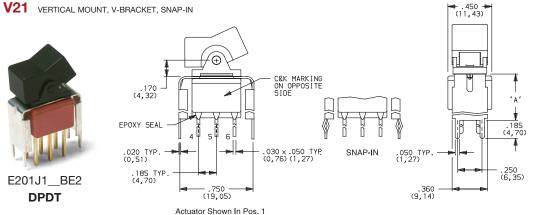
.250 TYP. (6,35) .750 (19,05) .073 DIA. (1,85Ø) TYP.

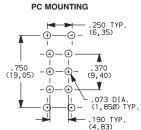
PC MOUNTING

OPTION CODE	DIM 'A'
V21	.555 (14, 10)
V 6	.460 (11, 68)
V 7	.630 (16, 00)
V 8	.953 (24, 21)

NOTE: Available actuators, see pages G-27 thru G-29.



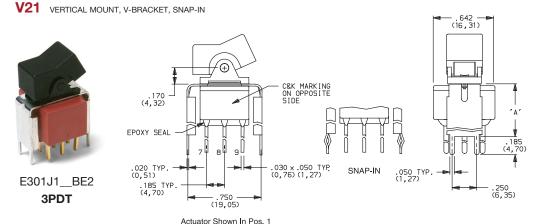




OPTION CODE	DIM 'A'
V21	.555 (14, 10)
V 6	.460 (11, 68)
V7	.630 (16, 00)
V 8	.953 (24, 21)

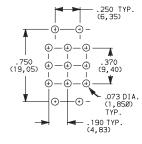
NOTE: Available actuators, see pages G-27 thru G-29.

V7, V8 VERTICAL MOUNT, V-BRACKET



NOTE: Available actuators, see pages G-27 thru G-29.

PC MOUNTING



DIM 'A'
.555 (14, 10)
.630 (16, 00)
.953 (24, 21)



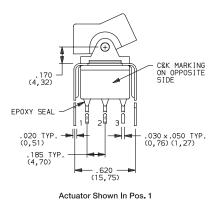


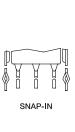
Sealed Miniature Rocker and Lever Handle Switches

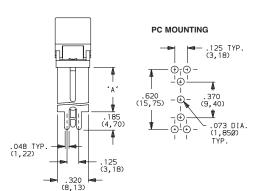
TERMINATIONS

V3, V4 VERTICAL MOUNT, V-BRACKET

V31 VERTICAL MOUNT, V-BRACKET, SNAP-IN









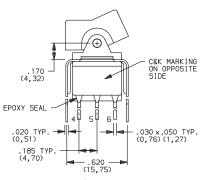
E101J1__BE2 **SPDT**

OPTION CODE	DIM 'A'
V3, V31	.460 (11,68)
V 4	.630 (16,00)

NOTE: Available actuators, see pages G-27 thru G-29.

V3, V4 VERTICAL MOUNT, V-BRACKET

V31 VERTICAL MOUNT, V-BRACKET, SNAP-IN



Actuator Shown In Pos. 1

.450 (11,43) PC MOUNTING ⊕-⊕--(+) .048 TYP (1,22) SNAP-IN .190 .125 (3,18) .320 (8,13)

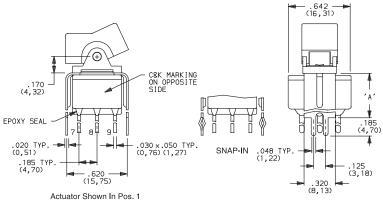


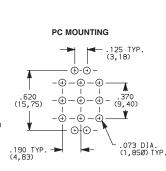
E201J1__BE2 **DPDT**

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

NOTE: Available actuators, see pages G-27 thru G-29.

V4 VERTICAL MOUNT, V-BRACKET VERTICAL MOUNT, V-BRACKET, SNAP-IN







E301J1__BE2 3PDT

OPTION CODE	DIM 'A'
V41	.630 (16,00)

NOTE: Available actuators, see pages G-27 thru G-29.



Third Angle Projection

Dimensions are shown: Inches (mm)



Sealed Miniature Rocker and Lever Handle Switches

CONTACT MATERIAL

PTION CODE	CONTACT MATERIAL	TERMINAL PLATING	RATINGS	
В	GOLD 1	GOLD ¹	LOW LEVEL/	0.4 VA MAX. @ 20 V AC OR DC MAX.
Р	GOLD	MATTE-TIN ⁷	DRY CIRCUIT	O.4 VA MIAA. & 20 V AO ON DO MIAA.
Q	SILVER 4,5	SILVER 5	DOWED	E1XX & E2XX MODELS: 7.5 AMPS @125 V AC OR 28 V DC; 3 AMPS @250 V AC.
S		MATTE-TIN ⁶	POWER	E3XX MODELS: 5 AMPS @ 125 V AC OR 28 V DC; 2 AMPS @ 250 V AC.
G	GOLD OVER	GOLD ³	LOW LEVEL/DRY	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.
R	SILVER ^{2,3}	MATTE-TIN ⁶	CIRCUIT OR POWER	DC 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.

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

- ² END CONTACTS: Coin silver, with gold plate over nickel plate.
- ³ CENTER CONTACTS & ALL TERMINALS: Copper alloy, with gold plate
- $^{\rm 4}$ END CONTACTS: Coin silver, silver plated.
- ⁵ CENTER CONTACT & ALL TERMINALS: Copper alloy, with gold flash over silver plate. Or copper alloy, silver plated.
- ⁶ TERMINALS: Copper alloy, with matte-tin over nickel plate.

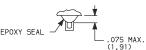
NOTE: Any models supplied with Q, B, G, S P & R contact material are RoHS compliant.

with all options when ordered with G, Q, S & R contact material. B contact material standard with all terminations.

PR&S contact materials not available with Z terminations.



E EPOXY SEAL



AVAILABLE HARDWARE J2, J21 Actuators J3 Actuator J1, J11 Actuators PART NO. PART NO. PART NO. 760502263 BLACK 766602263 BLACK 776A02263 BLACK 760503000 RED 766603000 RED 776A03000 RED Material: Nylon Material: Nylon Material: Nylon Finish: Matte J90 Actuator J50 Actuator J60 Actuator

PART NO. 775A02263 BLACK 775A03000 RED

Material: Nylon

PART NO. 613802263 BLACK 598103000 RED Material: Nylon Finish: Matte

NOTE: Additional nuts, screws and lockwashers available separately, see Technical Data section of this catalog. Other colors available, consult Customer Service Center.



PART NO. 598002263 BLACK 598003000 RED

Material: Nylon Finish: Matte





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

AVAILABLE HARDWARE

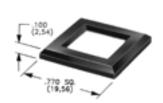
Fits Z3 Termination



PART NO. 530100000

Available in loose pieces.

Frame for J11, J21 Actuators PART NO. 764500746 BLACK ENAMEL 764601106 RETAINING SPRING Material: Spring Steel c**FL**°us J50, J60 & J90 Actuators



MATTE

PART NO.

486702000

Material: Nylon Finish: Matte or Gloss

GLOSS

PART NO.

486802000 BLACK

NOTE: Additional nuts, screws and lockwashers available separately, see Technical Data section of this catalog. Other colors available, consult Customer Service Center.

Frames snap into panel opening and are independent from switch mounting. Accurate positioning of the PC mounted switch relative to the panel opening is necessary to provide proper clearance between actuator and frame. Available in two basic styles and four panel thicknesses .047-.125 in. Material: Nylon. Finish: Matte.





J1 & J2 Actuators



.047" (1,19) PANEL THK.

.062" (1,57) PANEL THK.

.090" (2,29) PANEL THK.

.125" (3,18) PANEL THK.

PART NO.

452902263 452903000

PART NO. 452702263 452703000 PART NO. 452802263 452803000

PART NO.

452602263 BLACK 452603000 RED

J50, J60 & J90 Actuators



.047" (1,19) PANEL THK.

.062" (1,57) PANEL THK.

.090" (2.29) PANEL THK.

.125" (3,18) PANEL THK.

PART NO.

432502263 432503000 PART NO.

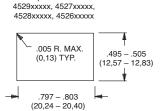
432602263 432603000 PART NO. 432702263

432703000

PART NO.

432802263 BLACK 432803000 RED

PANEL MOUNTING For part numbers

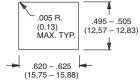


4325xxxxx, 4326xxxxx .005 R. 495 - 505(0,13) MAX. TYP. (12,57 - 12,83).595 – .605 (15,11-15,37)

For part numbers

4327xxxxx, 4328xxxxx .005 R.

For part numbers



Third Angle Projection



Rocker

E Series

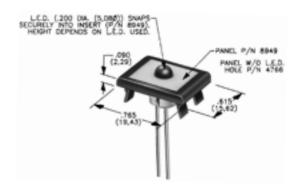
Sealed Miniature Rocker and Lever Handle Switches

AVAILABLE HARDWARE

Panel Inserts

Will fit separate snap-in frames for J50, J60, J90 actuators.

Above frames (part nos. 432XXXXXX) are also available with insert which accepts LED for indicator light assembly. Order insert separately from frame. Blank insert panel (without hole for LED) also available. **LED not included.**



PANEL INSERT WITH HOLE FOR LED BLANK PANEL INSERT WITHOUT HOLE FOR LED

PART NO.

894902000 894903000 PART NO.

476602000 BLACK 476603000 RED

NOTE: Special colors, custom markings available, consult Customer Service Center.



