## Features/Benefits

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


## Typical Applications

- Telecommunications
- Instrumentation
- Medical equipment



## Specifications

CONTACT RATING: B contact material: 0.4 VA max. @ 20 V AC or DC max. Q contact material: 5 AMPS @ 120 V AC or 28 V DC; 2 AMPS @ 250 V AC. See page G-20 for additional ratings.
ELECTRICAL LIFE: 7X01 and UX1 models: 100,000 make-and-break cycles at full load. All other models: 40,000 cycles.
CONTACT RESISTANCE: Below $10 \mathrm{~m} \Omega$ typ. initial @ 2-4
V DC, 100 mA , for both silver and gold plated contacts.
INSULATION RESISTANCE: $10^{9} \Omega \mathrm{~min}$.
DIELECTRIC STRENGTH: 1000 Vrms min. @ sea level. OPERATING TEMPERATURE: $-30^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$.
SOLDERABILITY: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging).

NOTE: Any models supplied with S, P, R, Q, B or G contact material are RoHS compliant.
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: Glass filled nylon 6/6, flame retardant, heat stabilized, or diallyl phthalate (DAP) (UL 94V-0).
ACTUATOR: Nylon, black.
FRAME (FRONT MOUNT): Nylon, black.
FRAME (REAR MOUNT): Spring steel, black.
BUSHING: Brass or zinc, nickel plated.
HOUSING: Stainless steel.
SWITCH SUPPORT: Brass or steel, matte-tin plated.
END CONTACTS: B contact material: Copper alloy, with gold plate over nickel plate. Q contact material: Coin silver, silver plated. See page G-20 for additional contact materials.
CENTER CONTACTS \& ALL TERMINALS: B contact material: Copper alloy, with gold plate over nickel plate. Q contact material: Copper alloy, silver plated. See page G-20 for additional contact materials.
TERMINAL SEAL: Epoxy. Refer to Soldering and Cleaning in Technical Data Section
HARDWARE: Mounting nuts \& screws: Brass. Lockwasher: Stainless steel. Standoff: Nylon standard.

## Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages G-4 through G-24. For additional options not shown in catalog, consult Customer Service Center. All models have epoxy terminal seal and are compatible with all "bottom-wash" PCB cleaning methods.


## 



MOM. $=$ Momentary

* Wiring for 3-way switch
** U11 through U413 model nos.
c~Us with all options when ordered with $\mathrm{G}, \mathrm{Q}, \mathrm{R}$ or S contact material.


## 

| $\begin{aligned} & \text { NO. } \\ & \text { POLES } \end{aligned}$ | MODEL NO. | $\begin{gathered} \text { UL** } \\ \text { MODEL } \\ \text { NO. } \end{gathered}$ | SWITCH FUNCTION |  |  | CONNECTED TERMINALS |  |  | SCHEMATIC |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | POS. 1 | Pos. 2 | Pos. 3 | POS. 1 | POS. 2 | POS. 3 |  |  |  |
|  |  |  | C\&K marking on opposite side |  |  |  |  |  |  |  |  |
| 3 P | 7301 | U31 | ON | NONE | ON | 2-3,5-6,8-9 | N/A | 2-1,5-4,8-7 |  |  |  |
|  | 7303 | U33 | ON | OFF | ON |  | OPEN |  |  |  |  |

3PDT


Part number shown: 7301J1ZQE2


| 4P | 7401 | U41 | ON | NONE | ON | 2-3,5-6,8-9,11-12 | N/A | 2-1,5-4,8-7,11-10 | 4PDT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 7405 | U45 | MOM. | OFF | MOM. |  | OPEN |  |  |
|  | 7411* | U411* | ON | ON | ON |  | 2-3,5-4,8-9,11-10 |  |  |

4PDT


Part number shown: 7401J1ZQE2

MOM. $=$ Momentary
${ }^{* *}$ U11 through U411 model nos. cind with all options when ordered with G, Q, R or S contact material.


Miniature Rocker \& Lever Handle Switches
J1 ROCKER

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

NOTE: Hardware: two each-mounting screws, nuts, lockwashers and standoffs for $1 / 8$ inch thick panel are supplied standard on all switches with panel mounting brackets. Actuators available separately, see page G-21 through G-22. Hardware is available see Technical Data section of this catalog.

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

## PANEL MOUNTING

J1 \& J2 Actuators


## ACTUATOR-SNAP-IN FRONT MOUNT




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

NOTE: Actuators \& frames available
separately, see pages G-21 through G-22. J15, J16, J25, J26, J50 \& J51 Actuators available with 71XX, 72XX, U1XX \& U2XX models and $\mathrm{C}, \mathrm{W}-\mathrm{W} 5, \mathrm{Z}$ and Z 3 terminations.

* For J50: Increase this dimension to .620/.625 $(15,75 / 15,88)$ for . 091/.125 $(2,31 / 3,18)$ thk. panels.

J51 ROCKER WITH FRAME, SNAP-IN


For LED information, see page G-24.
$J 60$ LEVER, SNAP-IN


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

NOTE: Actuators \& frames available separately,
see pages G-21 through G-22. J51, J52, J60 \& J61 Actuators available with $71 \mathrm{XX}, 72 \mathrm{XX}, \mathrm{U} 1 \mathrm{XX}$ \& U2XX models and $\mathrm{C}, \mathrm{W}-\mathrm{W} 5, \mathrm{Z}$ and Z 3 terminations.

PANEL MOUNTING

J51, J60 \& J61 Actuators


For J51, J52: Increase this dimension to $.620 / .625$ $(15,75 / 15,88)$ for $.060 / .125(1,52 / 3,18)$ thk. panels.

| OPTION <br> CODE | ACTUATOR <br> COLOR |
| :---: | :--- |
| 2 | BLACK |
| 1 | WHITE |
| 3 | RED |


| OPTION <br> CODE | FRAME COLOR |
| :---: | :--- |
| 2 | BLACK |
| NONE | No Frame Color <br> (J90 options) |
| 1 | WHITE |

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

NOTE: Actuators \& frames available separately, see pages G-21 through G-22. J62, J90 \& J91 Actuators available with $71 \mathrm{XX}, 72 \mathrm{XX}, \mathrm{U} 1 \mathrm{XX}$ \& U2XX models and C, W-W5, Z \& Z3 terminations.


* For J90: Increase this dimension to .620/.625 $(15,75 / 15,88)$ for .091/.125 $(2,31 / 3,18)$ thk. panels. For J91: Increase this dimension to .620/.625 $(15,75 / 15,88)$ for $.060 / .125(1,52 / 3,18)$ thk. panels.

J62 Lever with frame for Led, snap-in


No frame color choice required.


## ACTUATOR-REAR MOUNT $\square \frac{\square}{\square} \square \square$

J11 rocker with frame


J37 ROCKER WITH FRAME



PANEL MOUNTING
J11 \& J21 Actuators


J19 Actuator


Third Angle Projection

## ACTUATOR-PC MOUNT $\square$

| (option | $\underset{\substack{\text { Actuator } \\ \text { Color }}}{ }$ |
| :---: | :---: |
| 2 | виаск |
| 1 | whtre |
| 3 | RED |

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

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

Actuators available separately, see page G-21 through G-22. J1, J2 actuators available with A, A3, AV2, AV3, AW3 \& V2 terminations. J3 actuators available with AV2, AV3 \& V2-V61 terminations. J50 actuators available with A (DP, 3P models only), A3 (DP, 3P models only), AV2, AV3, AW3 (DP, 3P models only) \& V2-V61 terminations.

J1 rocker


J2 Lever


J3 ROCKER


J50 ROcker

 Projection


TERMINATIONS $\quad$ -

Z solderlug

| SPDT thru 4PDT | Not available with $P, R$ or $S$ contact materials. <br> Available actuators, see pages $G-7$ through $G-13$. |
| :--- | :--- |

Z3 Quick connect

.030 THK
$(0,76)$
Not available with $\mathrm{P}, \mathrm{R}$ or S contact materials. Available actuators, see pages G-7 through G-13. Mating quick connector available; order part number 530100000,
SPDT thru 4PDT page G-22.

C pс thru-hole


SPDT thru 4PDT NOTE: Available actuators, see pages G-7 through G-13.
W, W3, W5 wire wrap


## SPDT thru 4PDT

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

www.ckswitches.com

## TERMINATIONS $\square \square \square-\square-\square$

A right angle, pc thru-hole


A3 RIGHT ANGLE, SNAP-IN, PC THRU-HOLE
AW3 right angle, extended, PC THRU-HOLE


Not available with I seal option. Available actuators, see pages G-6 and G-12.
Terminal bend radii and lead-in manufacturing option.
NOTE: PC pattern must clear switch support leg.

A RIGHT ANGLE, PC THRU-HOLE


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


A right angle, pc thru-hole


PC MOUNTING


Not available with I seal option. Available actuators, see pages G-6 and G-12. Terminal bend radii and lead-in manufacturing option.

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


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


Not available with I seal option. Available actuators, see pages G-6 and G-12. Terminal bend radii and lead-in manufacturing option.


## TERMINATIONS $\square \square \square \square-\square$

AV2 vertical right angle, pc thru-hole, .150" PITCH


Actuator Shown In Pos. 1



SECTION A-A


7201J1AV2BE2
Vertical Actuation DPDT

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

PC MOUNTING


Not available with I seal option. Available actuators, see pages G-6 and G-12.
Terminal bend radii and lead-in manufacturing option.

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


Actuator Shown In Pos. 1



SECTION A-A


7301J1AV2BE2 Vertical Actuation 3PDT

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

PC MOUNTING


Not available with I seal option. Available actuators, see pages G-6 and G-12.
Terminal bend radii and lead-in manufacturing option.


## TERMINATIONS $\square \square \square \square \square \square$

AV2 vertical right angle, pc thru-hole, .150" PITCH


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

PC MOUNTING


Not available with I seal option. Available actuators, see pages G-6 and G-12.
Terminal bend radii and lead-in manufacturing option.

V5 vertical right angle, pc thru-hole, .150" PITCH


V51
VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, .150 " PITCH

PC MOUNTING


## TERMINATIONS $\square \square \square \square-\square \square$

V5 vertical right angle, pc thruu-hole, .150" PITCH


V51 VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, . 150" PITCH

PC MOUNTING


Not available with I seal option. Available actuators, see pages G-6 and G-12.
Terminal bend radii and lead-in manufacturing option.
V2, V6, V7, V8 vertical mount, v-bracket
V61 vertical mount, v-bracket, snap-in


Actuator Shown In Pos. 1

> Not available with I seal option.

Available actuators, see pages G-6 and G-12.


## PC MOUNTING



7101J1__BE2
SPDT

| OPTION <br> CODE | DIM 'A' |
| :---: | :---: |
| V2, V21 | $.555(14,10)$ |
| V6, V61 | $.460(11,68)$ |
| V7 | $.630(16,00)$ |
| V8 | $.953(24,21)$ |

## TERMINATIONS $\square \square \square \square \square \square$

V2, V6, V7, V8 verticalmount, v-bracket
V21, V61 VERTICAL MOUNT, V-BRACKET, SNAP-IN


Not available with I seal option.
Available actuators, see pages G-6 and G-12.
V2, V7, V8 verticalmount, v-bracket


Not available with I seal option.
Available actuators, see pages G-6 and G-12.


| OPTION <br> CODE | DIM 'A' |
| :---: | :---: |
| V2, V21 | $.555(14,10)$ |
| V7 | $.630(16,00)$ |
| V8 | $.953(24,21)$ |



V2, V7, V8 vertical mount, v-bracket

$$
\sec -2+2
$$

V21 VERTICAL MOUNT, V-BRACKET, SNAP-IN


Not available with I seal option.
Available actuators, see pages G-6 and G-12.

## TERMINATIONS $\square \square \square \square-\square$

V3, V4, V9 vertical mount, v-bracket
V31
VERTICAL MOUNT, V-BRACKET, SNAP-IN


Actuator Shown In Pos. 1

Not available with I seal option.
Available actuators, see pages G-6 and G-12.


7101J1__BE2 SPDT

| OPTION <br> CODE | DIM 'A' |
| :---: | :---: |
| V3, V31 | $.460(11,68)$ |
| V4 | $.630(16,00)$ |
| V9 | $1.150(29,21)$ |

V3, V4, V9 vertical mount, v-bracket
V31 vertical mount, v-bracket, snap-in


Not available with I seal option.
Available actuators, see pages G-6 and G-12.


7201J1__BE2
DPDT

| OPTION <br> CODE | DIM 'A' |
| :---: | :---: |
| V3, V31 | $.460(11,68)$ |
| V4 | $.630(16,00)$ |
| V9 | $1.150(29,21)$ |

V4, V9 vertical mount, v-bracket

Not available with I seal option.
Not available with I seal option.
Available actuators, see pages G-6 and G-12.


## TERMINATIONS ■- $\square$

V4, V9 vertical mount, v-bracket
PC MOUNTING


4PDT


| OPTION <br> CODE | DIM ‘A' |
| :---: | :---: |
| V4 | $.630(16,00)$ |
| V9 | $1.150(29,21)$ |

Not available with I seal option
Available actuators, see pages G-6 and G-12.

## CONTACT MATERIAL $\square \square \square \square \square \square \square \square$

| OPTION CODE | CONTACT MATERIAL | TERMINAL PLATING |  | RATINGS |
| :---: | :---: | :---: | :---: | :---: |
| B | GOLD ${ }^{1}$ | GOLD ${ }^{1}$ | LOW LEVEL/ DRY CIRCUIT | 0.4 VA MAX. @ 20 V AC OR DC MAX. |
| P |  | MATTE-TIN ${ }^{6}$ |  |  |
| Q | SILVER ${ }^{4,5}$ | SILVER ${ }^{5}$ | POWER | 5 AMPS @ 120 V AC OR 28 V DC; 2 AMPS @ 250 V AC. |
| S |  | MATTE-TIN 6 |  |  |
| G | GOLD OVER SILVER ${ }^{2,3}$ | GOLD ${ }^{3}$ | LOW LEVEL/DRY CIRCUIT OR POWER | 04 VA MAX @ 20 V AC OR DC MAX OR 5 AMPS @ 120 V AC OR 28 V DC; 2 AMPS @ 250 V AC. |
| R |  | MATTE-TIN ${ }^{6}$ |  |  |

* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.
${ }^{1}$ 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 matte-tin over nickel plate.

U11-U415 model numbers c with all options when ordered with
G, Q, S \& R contact material.
$B$ contact material standard with all terminations except $C, Z$ \& $Z 3$.
$Q$ contact material standard with $C, Z \& Z 3$ terminations.
$P, S \& R$, contact materials not available with $Z \& Z 3$ terminations.
NOTE: Any models supplied with Q, B, G S, P \& R contact material are RoHS compliant.

## SEAL $\quad$ - $\quad-\square-\square$

E Epoxy seal

| EPOXY POTTED BASE

length is same as case length

Available with $C, W$ through $W 5, Z \& Z 3$ terminations.

| NO. <br> POLES | DIM 'A' |
| :---: | :---: |
| SP | $.410(10,41)$ |
| DP | $.440(11,18)$ |
| $3 P$ | $.505(12,83)$ |
| $4 P$ | $.505(12,83)$ |

Dimensions are shown: Inches (mm)

## AVAILABLE HARDWARE

Panel mounting hardware for rocker and lever handle switches is available separately. Mounting hardware consists of two screws, two nuts, two standoffs and two lockwashers per switch, and is available for panel thicknesses of $1 / 16,3 / 32$ and $1 / 8$ inch. See part numbers below.

| Qty | Part Number | Description |
| :--- | :--- | :--- |
| 2 | 761103000 | Standoffs |
| 2 | 764100000 | Mounting screws |
| 2 | 764200000 | Lock washers |
| 2 | 764300000 | Hex nuts |



J1 \& J2 actuators

| PART NO. | PANEL THK. | STANDOFF LENGTH |
| :---: | :---: | :---: |
| 761103000 | $1 / 8 \mathrm{IN} .(3,18)$ | $.233(5,92)$ |

J3 actuators

| PART NO. | PANEL THK. | STANDOFF LENGTH |
| :---: | :---: | :---: |
| 770603000 | $1 / 8 \mathrm{IN} .(3,18)$ | $.233(5,92)$ |

J10 actuators

| PART NO. | PANEL THK. | STANDOFF LENGTH |
| :---: | :---: | :---: |
| 770703000 | $1 / 8$ IN. $(3,18)$ | $.233(5,92)$ |

MATERIAL
Screws, nuts, lockwashers: Stainless steel. Standoffs: Nylon, standard.

| J1, J11, J15 \& J16 Actuators | J2, J21, J25 \& J26 Actuators | J3 \& J37 Actuators |
| :--- | :--- | :--- |

## 7000 Series

Miniature Rocker \& Lever Handle Switches


## AVAILABLE HARDWARE

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.

TYPICAL APPLICATION


## J1 \& J2 Actuators


.062" $(1,57)$ PANEL THK. .090" $(2,29)$ PANEL THK. $.125^{\prime \prime}(3,18)$ PANEL THK.

> PART NO.

452902263

PART NO.
452702263

PART NO.
452802263

PART NO.
452602263 BLACK

J50, J60 \& J90 Actuators


| $.047 "(1,19)$ PANEL THK. | $.062 "(1,57)$ PANEL THK. | $.090 \prime(2,29)$ PANEL THK. | $.125 "(3,18)$ PANEL THK. |
| :--- | :--- | :--- | :--- |
| PART NO. | PART NO. | PART NO. |  |
| 432502263 | 432602263 | 432702263 | $432802263 \quad$ BART NO. |

PANEL MOUNTING


For part numbers 4325xxxxx, 4326xxxxx


For part numbers 4327xxxxx, 4328xxxxx


## 7000 Series

## Miniature Rocker \& 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

PART NO.
894902000

BLANK PANEL INSERT WITHOUT HOLE FOR LED

PART NO.
476602000 BLACK

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

## LED INFORMATION

Process Information: Soldering to LED leads must be completed within 5 seconds at $500^{\circ} \mathrm{F}\left(260^{\circ} \mathrm{C}\right)$ maximum.

LEDs are not supplied with J52, J62 options. LED snaps into switch frame surrounding actuator and is wired externally.


Suggested LED for J52 \& J62 options. Dimensions for reference only.

