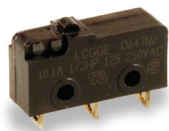


# LC Series Subminiature Precision Snap-acting Switches



## Features/Benefits

- Compact design
- Long life and high electrical capacity
- Quick connect, wire lead or PC mounting
- Wide variety of actuator styles

## Typical Applications

- Motorized equipment
- Sump pump
- Thermostatic controls

UL61058-1



## Specifications

CONTACT RATING: From low level\* to 10.1 AMPS @ 250 V AC.  
 ELECTRICAL LIFE: 100,000 cycles  
 INSULATION RESISTANCE: 1,000 M Ω min.  
 DIELECTRIC STRENGTH: 1,000 Vrms min. @ sea level.  
 OPERATING TEMPERATURE: -17°F to 185°F (-25°C to 85°C).  
 OPERATING FORCE: From 142 to 170 grams at actuator button.  
 Forces are less at free end of lever actuators; (see OPERATING FORCE and ACTUATOR option sections).  
 MOUNTING: 2-56 screws, torque 2.3 in/lbs max.

\* Low Level—conditions where no arcing occurs during switching, i.e., 0.4 VA max. @ 20 V AC or DC max.

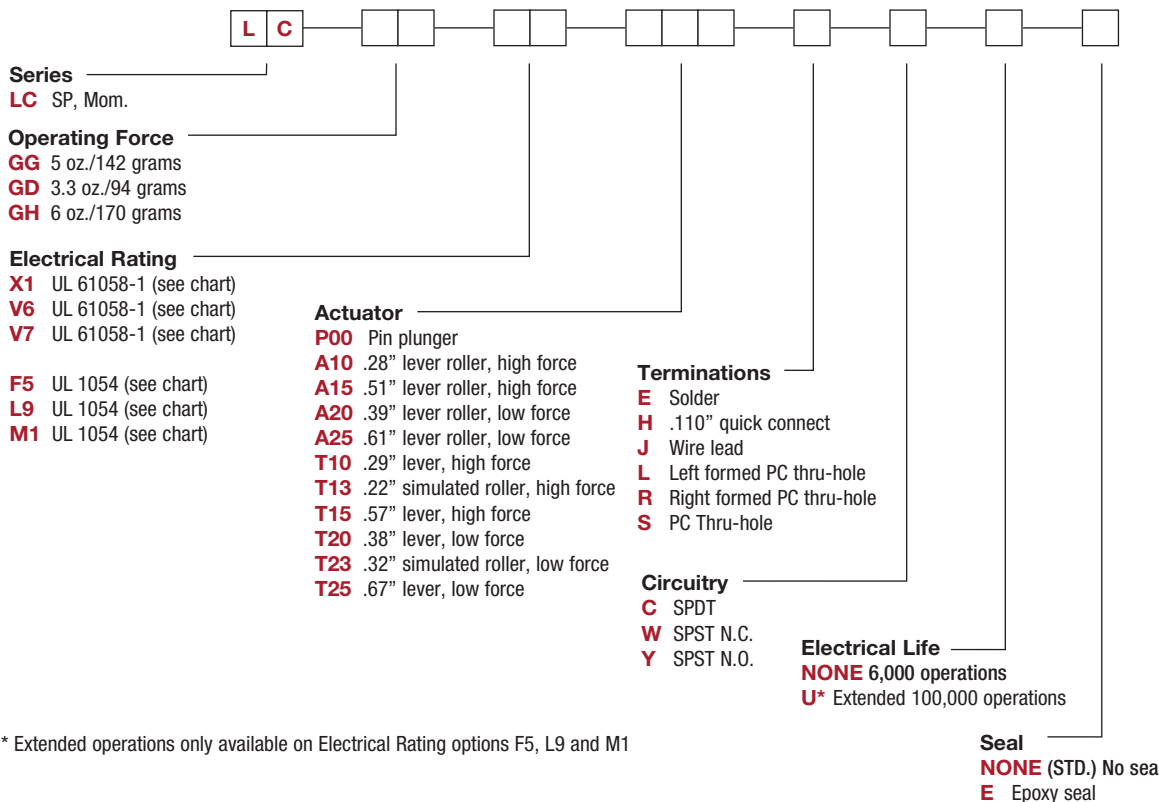
**NOTE:** Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service center.

## Materials

SWITCH HOUSING: Thermoplastic polyester or high temperature thermoplastic (PTS) (UL 94V-0).  
 ACTUATOR BUTTON: Thermoplastic polyester (UL 94V-0).  
 SPRING: Copper alloy.  
 PIVOT: Copper alloy.  
 MOVABLE CONTACTS: Fine silver for ratings greater than 1 AMP @ 125 V AC. Fine silver with 24K gold plate for 1 AMP @ 125 V AC or less.  
 STATIONARY CONTACTS: Fine silver welded on copper alloy for ratings greater than 1 AMP @ 125 V AC. Gold alloy welded on copper alloy for ratings less than 1 AMP @ 125 V AC.  
 TERMINALS: Copper alloy.  
 TERMINAL SEAL: Epoxy.

## 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 J-33 through J-35. For additional options not shown in catalog, consult Customer Service Center.



\* Extended operations only available on Electrical Rating options F5, L9 and M1

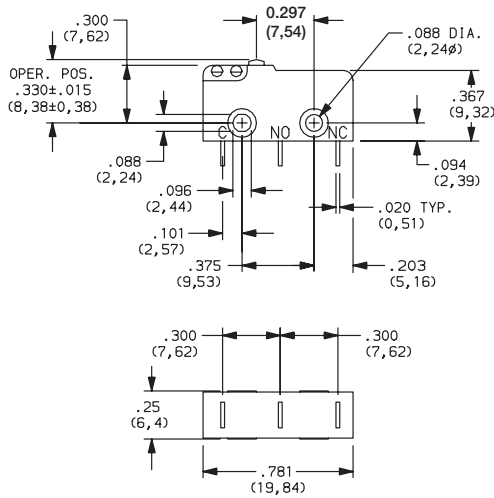


Dimensions are shown: Inch (mm)  
 Specifications and dimensions subject to change

# LC Series Subminiature Precision Snap-acting Switches

SERIES ■ ■ ■ ■ ■ ■ ■ ■ ■ ■

**LC** SUBMINIATURE PRECISION SNAP-ACTING SWITCHES  
SP MOMENTARY



## OPERATING FORCE ■ ■ ■ ■ ■ ■ ■ ■

| OPTION CODE | BASIC SWITCH OPERATING FORCES (OZ./GRAMS) |
|-------------|---|
| <b>GG</b>   | 5<br>142                                  |
| <b>GD</b>   | 3.3<br>94                                 |
| <b>GH</b>   | 6<br>170                                  |

NOTE: Operating force varies with actuator option, see ACTUATOR option section.

## ELECTRICAL RATING ■ ■ ■ ■ ■ ■ ■ ■

| UL 61058-1  |  | CONTACT MATERIAL                |  |                 |                  |
|-------------|--|---------------------------------|--|-----------------|------------------|
| OPTION CODE | ELECTRICAL RATING  | MOVABLE CONTACT                 | STATIONARY CONTACT                                   | RoHS COMPLIANT* | RoHS COMPATIBLE* |
| <b>X1</b>   | 1A GP, 250 Vac, 50/60 Hz, 25E3, T85<br>1RA, 30 Vdc, 1E4, T85   | Fine silver with 24K gold plate | Fine silver with 24K gold plate on copper base alloy | Yes             | Yes              |
| <b>V6</b>   | 5(2)A RM, 250 Vac, 50/60 Hz, 1E4, T85<br>5A GP, 250 Vac, 50/60 Hz, 1E4, T85<br>5RA, 30 Vdc, 1E4, T85<br>1/3 HP, 125/250 Vac, 50/60 Hz, 1E4, T85    | Fine silver                     | Fine silver welded on copper base alloy              | Yes             | Yes              |
| <b>V7</b>   | 10(2)A RM, 250 Vac, 50/60 Hz, 1E4, T85<br>10A GP, 250 Vac, 50/60 Hz, 1E4, T85<br>10RA, 30 Vdc, 1E4, T85<br>1/3 HP, 125/250 Vac, 50/60 Hz, 1E4, T85 | Fine silver                     | Fine silver welded on copper base alloy              | Yes             | Yes              |

| UL 1054     |   | CONTACT MATERIAL                |  |                 |                  |
|-------------|---|---------------------------------|--|-----------------|------------------|
| OPTION CODE | ELECTRICAL RATING   | MOVABLE CONTACT                 | STATIONARY CONTACT                                   | RoHS COMPLIANT* | RoHS COMPATIBLE* |
| <b>F5</b>   | 1A, 125 V AC, 30 VDC<br>100,000 cycles ("U" option)             | Fine silver with 24K gold plate | Fine silver with 24K gold plate on copper base alloy | Yes             | Yes              |
| <b>L9</b>   | 5A, 1/3 HP @ 125 and 250 V AC<br>100,000 cycles ("U" option)    | Fine silver                     | Fine silver welded on copper base alloy              | Yes             | Yes              |
| <b>M1</b>   | 10.1A, 1/3 HP @ 125 and 250 V AC<br>100,000 cycles ("U" option) | Fine silver                     | Fine silver welded on copper base alloy              | Yes             | Yes              |



\* Note: See Technical Data section of this catalog for RoHS compliant and compatible definition and specifications. Consult Customer Service Center for availability and delivery of nonstandard ratings.  
\*Low Level = conditions where no arcing occurs during switching, i.e., 0.4 VA max. @ 20 V AC or DC max.



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

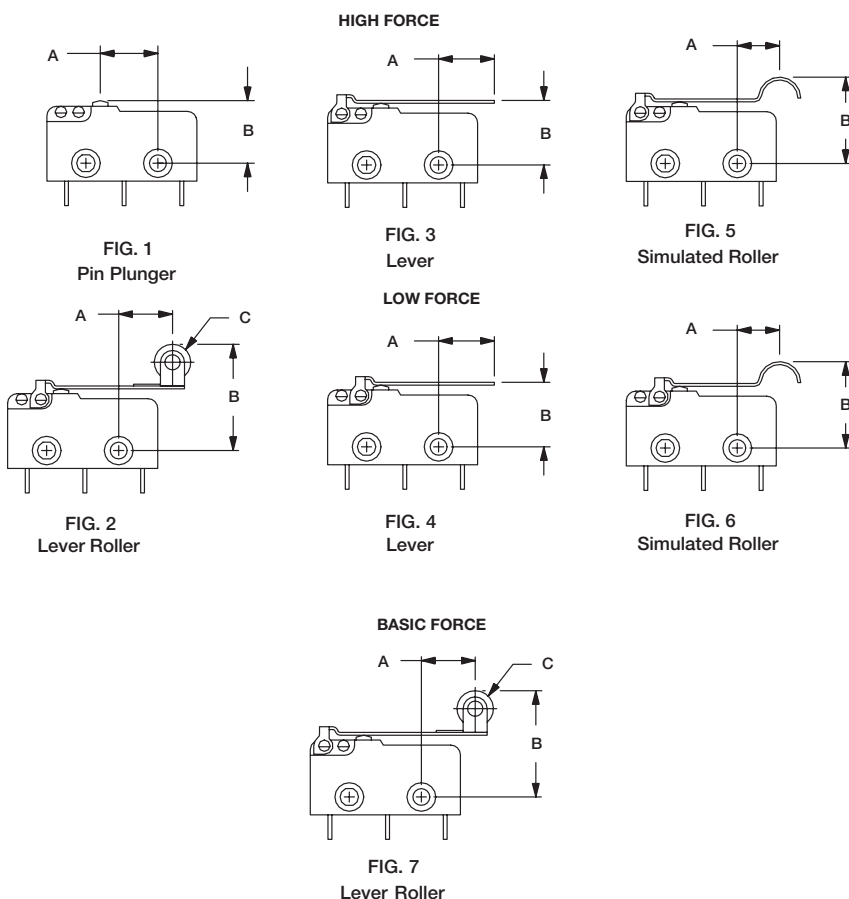


Snap-acting

# LC Series Subminiature Precision Snap-acting Switches

ACTUATOR

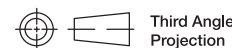
| OPTION CODE | FIG. | DIM. A          | DIM. B                        | DIM. C             |
|-------------|------|-----------------|-------------------------------|--------------------|
| <b>P00</b>  | 1    | 0.297<br>(7,6)  | .330 ± .015<br>(8,38 ± 0,38)  | —                  |
| <b>A10</b>  | 7    | 0.28<br>(7,1)   | .570 ± .070<br>(14,48 ± 1,78) | .19 dia.<br>(4,80) |
| <b>A25</b>  | 2    | 0.61<br>(15,5)  | .570 ± .175<br>(14,22 ± 4,45) | .19 dia.<br>(4,80) |
| <b>T10</b>  | 3    | 0.29<br>(7,4)   | .340 ± .070<br>(8,64 ± 1,78)  | —                  |
| <b>T13</b>  | 5    | 0.220<br>(5,3)  | .455 ± .065<br>(11,56 ± 1,65) | —                  |
| <b>T20</b>  | 4    | 0.39<br>(9,9)   | .340 ± .140<br>(8,64 ± 3,56)  | —                  |
| <b>T23</b>  | 6    | 0.32<br>(8,1)   | .455 ± .125<br>(11,56 ± 3,18) | —                  |
| <b>T25</b>  | 4    | 0.67<br>(17,0)  | .340 ± .091<br>(8,64 ± 4,70)  | —                  |
| <b>A15</b>  | 7    | 0.51<br>(13,0)  | .560 ± .090<br>(14,22 ± 2,29) | .19 dia.<br>(4,80) |
| <b>A20</b>  | 2    | 0.38<br>(9,7)   | .560 ± .135<br>(14,22 ± 2,29) | .19 dia.<br>(4,80) |
| <b>T15</b>  | 3    | 0.57<br>(14,51) | .340 ± .100<br>(8,64 ± 2,54)  | —                  |



## SWITCH CHARACTERISTICS

| OPTION CODE | MAXIMUM OPERATING FORCE (OZ./GRAMS) |           |           | MINIMUM RELEASE FORCE (OZ./GRAMS) |           |            | MAXIMUM DIFFERENTIAL TRAVEL | MAXIMUM PRETRAVEL | MINIMUM OVERTRAVEL |
|-------------|-------------------------------------|-----------|-----------|-----------------------------------|-----------|------------|-----------------------------|-------------------|--------------------|
|             | GG                                  | GD        | GH        | GG                                | GD        | GH         | ALL FORCES                  | ALL FORCES        | ALL FORCES         |
| A10         | 1.69<br>48                          | 1<br>28   | 2.0<br>57 | .21<br>6                          | .11<br>3  | .42<br>12  | .034<br>(0,86)              | .140<br>(3,56)    | .029<br>(0,74)     |
| A15         | 1.3<br>37                           | .68<br>19 | 1.6<br>44 | .16<br>4.5                        | .07<br>2  | .32<br>9   | .044<br>(1,12)              | .180<br>(4,57)    | .037<br>(0,94)     |
| A20         | 0.9<br>26                           | .52<br>15 | 1.1<br>31 | .11<br>3                          | .05<br>15 | .21<br>6   | .067<br>(1,70)              | .272<br>(6,91)    | .053<br>(1,53)     |
| A25         | .70<br>20                           | .42<br>12 | .85<br>24 | .07<br>2                          | .04<br>1  | .16<br>4.5 | .086<br>(2,18)              | .351<br>(8,92)    | .068<br>(1,73)     |
| P00         | 5<br>142                            | 3.3<br>95 | 6<br>170  | 1<br>28                           | .05<br>14 | 2.0<br>57  | .004<br>(0,10)              | .030<br>(0,76)    | .010<br>(0,25)     |
| T10         | 1.7<br>48                           | 1<br>28   | 2.1<br>60 | .21<br>6                          | .10<br>3  | .39<br>11  | .035<br>(0,90)              | .140<br>(3,56)    | .029<br>(0,74)     |
| T13         | 1.8<br>52                           | 1.2<br>34 | 2.2<br>62 | .21<br>6                          | .03<br>1  | .42<br>12  | .032<br>(0,81)              | .130<br>(3,30)    | .026<br>(0,66)     |
| T20         | 0.9<br>26                           | .52<br>15 | 1.1<br>30 | .10<br>3                          | .03<br>1  | .21<br>6   | .067<br>(1,70)              | .276<br>(7,01)    | .053<br>(1,35)     |
| T23         | 1.0<br>28                           | .52<br>15 | 1.2<br>34 | .10<br>3                          | .03<br>1  | .21<br>6   | .062<br>(1,57)              | .252<br>(6,40)    | .049<br>(1,24)     |
| T25         | 0.7<br>19                           | .05<br>14 | 0.8<br>24 | .07<br>2                          | .03<br>1  | .14<br>4   | .090<br>(2,29)              | .372<br>(9,45)    | .072<br>(1,83)     |
| T15         | 1.2<br>35                           | 1.3<br>39 | 1.5<br>42 | 0.14<br>4                         | .21<br>6  | .28<br>81  | .047<br>(1,19)              | .190<br>(4,83)    | .040<br>(1,02)     |

NOTE: For basic switch operating forces, see page J-32.



Third Angle Projection

Dimensions are shown: Inch (mm)

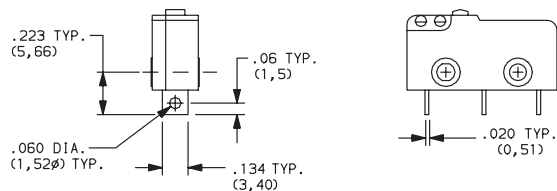
Specifications and dimensions subject to change



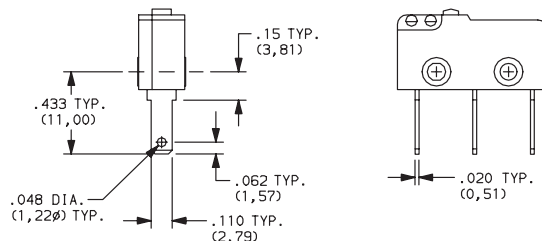
# LC Series Subminiature Precision Snap-acting Switches

## TERMINATIONS

### E SOLDER

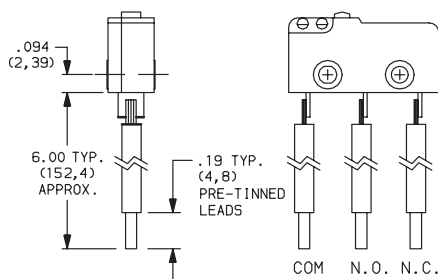


### H .110" QUICK CONNECT



NOTE: Use Amp Quick Connect Part No. 640932-1.

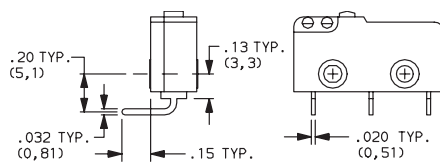
### J WIRE LEAD



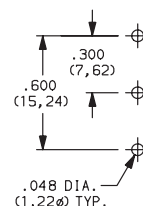
| RATING    | WIRE SIZE |
|-----------|-----------|
| 1 AMP     | 22 AWG    |
| 5 AMPS    | 20 AWG    |
| 10.1 AMPS | 18 AWG    |

| TERMINAL        | WIRE COLOR |
|-----------------|------------|
| COMMON          | BLACK      |
| NORMALLY OPEN   | WHITE      |
| NORMALLY CLOSED | RED        |

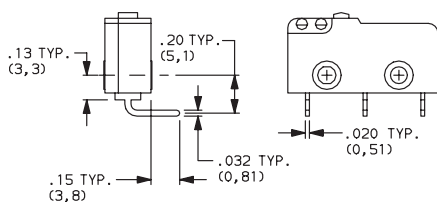
### L LEFT FORMED PC THRU-HOLE



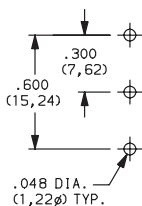
#### PC MOUNTING



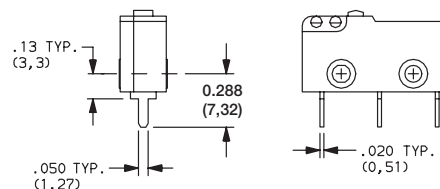
### R RIGHT FORMED PC THRU-HOLE



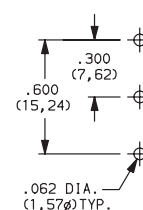
#### PC MOUNTING



### S PC THRU-HOLE



#### PC MOUNTING



## CIRCUITRY

**C** SPDT (Single Pole, Double Throw)

**W** SPST N.C. (Single Pole, Single Throw, Normally Closed)

**Y** SPST N.O. (Single Pole, Single Throw, Normally Open)

## ELECTRICAL LIFE

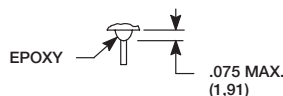
**NONE** 6,000 OPERATIONS

**U** EXTENDED 100,000 OPERATIONS

## SEAL

**NONE** NO SEAL

**E** EPOXY SEAL



Third Angle Projection

Dimensions are shown: mm  
Specifications and dimensions subject to change

**C&K**

Snap-acting