

# MM Series

## Subminiature Precision Snap-acting Switches



### Features/Benefits

- Low level and power switching
- Long electrical and mechanical life
- Increased overtravel
- Reliable snap-acting mechanism

### Typical Applications

- Limited space constraints
- Miniaturized military devices
- Communication devices



### Specifications

CONTACT RATING: From low level\* to 7 AMPS @ 250 V AC.  
ELECTRICAL LIFE: 100,000 cycles at full rated load.  
INSULATION RESISTANCE: 1,000 ohm min.  
DIELECTRIC STRENGTH: 1,000 V RMS min. @ sea level.  
OPERATING TEMPERATURE: -67 F to 275 F (-55 C to 135 C).  
OPERATING FORCE: 5 oz. (142 grams) max. at actuator button.  
MOUNTING: 2-56 screws, torque 2 in/lbs max.

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

### Materials

SWITCH HOUSING: Heat resistant phenolic (UL 94V-0).  
ACTUATOR BUTTON: Heat resistant phenolic (UL 94V-0).  
SPRING: Beryllium copper CDA alloy C17200.  
PIVOT: Brass CDA alloy 260.  
MOVABLE CONTACTS: Fine silver for ratings greater than 1 AMP @ 125 V AC. 24K gold for 1 AMP @ 125 V AC or less.  
STATIONARY CONTACTS: Fine silver inlay on copper CDA alloy C10200 for ratings greater than 1 AMP @ 125 V AC. 24K gold on copper CDA alloy C10200 for 1 AMP @ 125 V AC or less.  
TERMINALS: Copper CDA alloy C18700.

**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 J-31 through J-32. For additional options not shown in catalog, consult Customer Service Center.

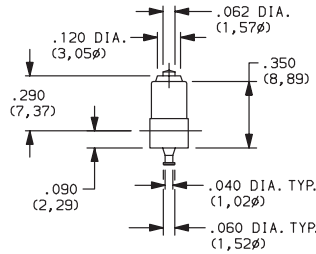
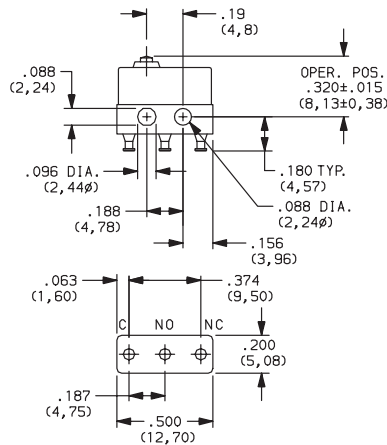
|                          |                                                                                      |          |          |          |  |  |  |  |  |
|--------------------------|--------------------------------------------------------------------------------------|----------|----------|----------|--|--|--|--|--|
|                          | <b>M</b>                                                                             | <b>M</b> | <b>G</b> | <b>G</b> |  |  |  |  |  |
| <b>Series</b>            |                                                                                      |          |          |          |  |  |  |  |  |
| <b>MM</b>                | SP, Mom.                                                                             |          |          |          |  |  |  |  |  |
| <b>Operating Force</b>   |                                                                                      |          |          |          |  |  |  |  |  |
| <b>GG</b>                | 5 oz./142 grams                                                                      |          |          |          |  |  |  |  |  |
| <b>Electrical Rating</b> |                                                                                      |          |          |          |  |  |  |  |  |
| <b>D1</b>                | 7A 125, 250 VAC<br>7A 28 VDC resistance<br>4A 28 VDC inductive<br>2.5A 28 VDC (lamp) |          |          |          |  |  |  |  |  |
| <b>F5</b>                | 1 A, 125 V AC, 30 V DC                                                               |          |          |          |  |  |  |  |  |
| <b>Actuator</b>          |                                                                                      |          |          |          |  |  |  |  |  |
| <b>P0</b>                | Pin plunger                                                                          |          |          |          |  |  |  |  |  |
| <b>D0</b>                | Plunger, high overtravel                                                             |          |          |          |  |  |  |  |  |
| <b>L0</b>                | Leaf                                                                                 |          |          |          |  |  |  |  |  |
| <b>L2</b>                | Leaf, high force, low motion                                                         |          |          |          |  |  |  |  |  |
| <b>W0</b>                | Leaf roller                                                                          |          |          |          |  |  |  |  |  |
| <b>W2</b>                | Leaf roller, high force, low motion                                                  |          |          |          |  |  |  |  |  |
| <b>Terminations</b>      |                                                                                      |          |          |          |  |  |  |  |  |
| <b>C</b>                 | Single turret solder                                                                 |          |          |          |  |  |  |  |  |
| <b>L</b>                 | Left formed PC thru-hole                                                             |          |          |          |  |  |  |  |  |
| <b>R</b>                 | Right formed PC thru-hole                                                            |          |          |          |  |  |  |  |  |
| <b>T</b>                 | PC thru-hole, .035"                                                                  |          |          |          |  |  |  |  |  |



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

# MM Series Subminiature Precision Snap-acting Switches

## SWITCH WITH STANDARD OPTIONS



| PART NUMBER      | BASIC OPERATING FORCE (OZ./GRAMS) | ELECTRICAL RATING  |
|------------------|-----------------------------------|--------------------|
| <b>MMGGD1P0C</b> | 5<br>142                          | 7 AMPS @ 250 V AC. |

**SERIES** ■ ■ ■ ■ ■ ■ ■ ■

**MM** SPDT MOMENTARY

**OPERATING FORCE** ■ ■ ■ ■ ■ ■ ■ ■

| OPTION CODE | BASIC SWITCH OPERATING FORCE                                                                 |
|-------------|----------------------------------------------------------------------------------------------|
| <b>GG</b>   | 5 oz. (142 grams) maximum for basic switch with pin plunger actuator ('P0' actuator option). |

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

**ELECTRICAL RATING** ■ ■ ■ ■ ■ ■ ■ ■

| OPTION CODE | RoHS COMPLIANT* | RoHS COMPATIBLE* | CONTACT MATERIAL |                                    | ELECTRICAL RATING                                                                |
|-------------|-----------------|------------------|------------------|------------------------------------|----------------------------------------------------------------------------------|
|             |                 |                  | MOVABLE CONTACT  | STATIONARY CONTACT                 |                                                                                  |
| <b>D1</b>   | Yes             | Yes              | Fine silver.     | Fine silver inlay on copper alloy. | 7A 125, 250 VAC; 7A 28 VDC resistance<br>4A 28 VDC inductive; 2.5A 28 VDC (lamp) |
| <b>F5</b>   | Yes             | Yes              | 24K Gold.        | 24K Gold on copper alloy.          | From low level* to 1 AMP<br>@ 125 V AC, 30 V DC.                                 |

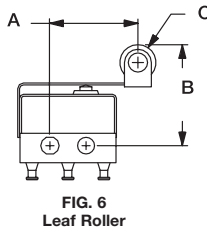
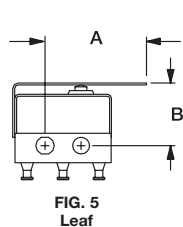
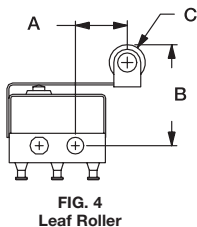
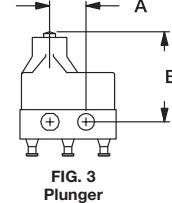
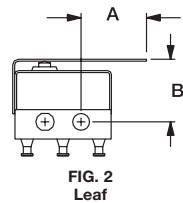
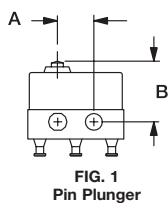
Note: See Technical Data section of this catalog for RoHS compliant and compatible definition and specifications.

All models **C&K** with all options.

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.

**ACTUATOR** ■ ■ ■ ■ ■ ■ ■ ■



| OPTION CODE | FIG. | DIM. A         | DIM. B                          | DIM. C               |
|-------------|------|----------------|---------------------------------|----------------------|
| <b>P0</b>   | 1    | .19<br>(4, 8)  | .320 ± .015<br>(8, 13 ± 0, 38)  | —                    |
| <b>D0</b>   | 3    | .19<br>(4, 8)  | .475 ± .031<br>(12, 07 ± 0, 79) | —                    |
| <b>L0</b>   | 2    | .34<br>(8, 6)  | .330 ± .015<br>(8, 38 ± 0, 38)  | —                    |
| <b>L2</b>   | 5    | .53<br>(13, 5) | .330 ± .015<br>(8, 38 ± 0, 38)  | —                    |
| <b>W0</b>   | 4    | .27<br>(6, 9)  | .532 ± .025<br>(13, 51 ± 0, 64) | .188 dia.<br>(4, 78) |
| <b>W2</b>   | 6    | .46<br>(11, 7) | .532 ± .025<br>(13, 51 ± 0, 64) | .188 dia.<br>(4, 78) |



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



# MM Series

## Subminiature Precision Snap-acting Switches

ACTUATOR

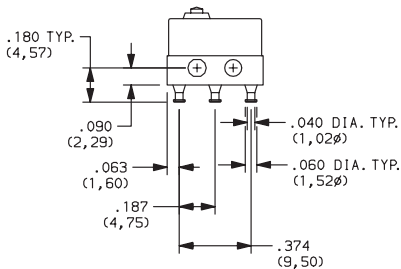
SWITCH CHARACTERISTICS

| OPTION CODE | MAXIMUM OPERATING FORCE (OZ./GRAMS) | MINIMUM RELEASE FORCE (OZ./GRAMS) | MAXIMUM DIFFERENTIAL TRAVEL | MAXIMUM PRETRAVEL | MINIMUM OVERTRAVEL |
|-------------|-------------------------------------|-----------------------------------|-----------------------------|-------------------|--------------------|
| D0          | 5<br>142                            | .7<br>20                          | .004<br>(0,10)              | .030<br>(0,76)    | .040<br>(1,02)     |
| L0          | 4<br>115                            | .7<br>20                          | .025<br>(0,64)              | .090<br>(2,29)    | .045<br>(1,14)     |
| L2          | 6<br>170                            | .7<br>20                          | .012<br>(0,30)              | .075<br>(1,90)    | .015<br>(0,38)     |
| P0          | 5<br>142                            | 1<br>28                           | .002<br>(0,05)              | .020<br>(0,51)    | .004<br>(0,10)     |
| W0          | 4<br>115                            | .7<br>20                          | .025<br>(0,64)              | .090<br>(2,29)    | .045<br>(1,14)     |
| W2          | 6<br>170                            | .7<br>20                          | .012<br>(0,30)              | .075<br>(1,90)    | .015<br>(0,38)     |

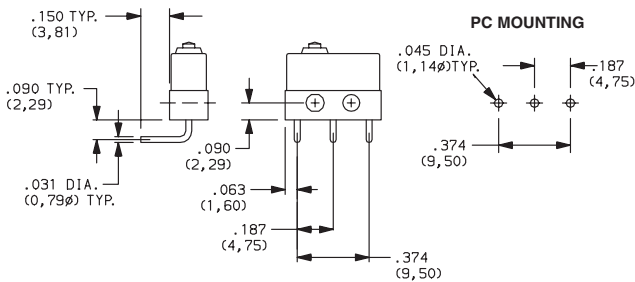
NOTE: For basic switch operating forces, see page J-31

TERMINATIONS

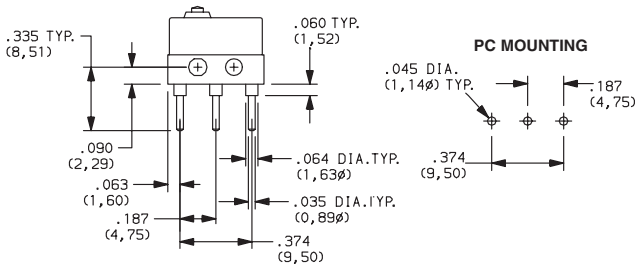
C SINGLE TURRET SOLDER



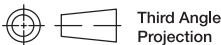
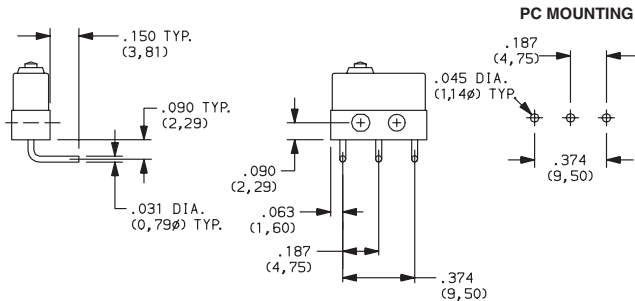
L LEFT FORMED PC THRU-HOLE



T PC THRU-HOLE, .035"



R RIGHT FORMED PC THRU-HOLE



Third Angle  
Projection

Dimensions are shown: Inch (mm)  
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