

# K12

## High Performance Key Switches

### Features/Benefits

- **Excellent tactile feel**
- **Wide choice of LED colors, travel and actuator forces**
- **High reliability / long life**
- **Sealed version available**
- **Designed for low-level switching**
- **Double stroke version available**
- **Detector version available**

### Typical Applications

- **Automotive**
- **Off-road transportation**
- **Industrial electronics**
- **Computers & network equipment**



### Construction:

FUNCTION: momentary

DISTANCE BETWEEN BUTTON CENTERS:  
min. 11 (0.433) K12C = 13 (0.512)

TERMINALS: PC pins, tinned

MOUNTING: Locating pins; K12D, K12G and K12P additionally  
with snap-in housing

### Mechanical

TOTAL TRAVEL: 1 mm, 1.5 mm, 2 mm

SWITCHING TRAVEL: 0.6 mm\*

OPERATING FORCE: 1.5 N OD without snap-point as detector  
switch, 2.5 N, 3.5 N, 5 N, 3.5/7 N, 6/12 N

PROTECTION CLASS: K12C IP 67 (dust tight, protected against  
the effects of immersion in water; other versions IP 50)

\* Additional switching travel (with pre-travel) available by request.

**NOTE:** Product to be offered compliant and compatible on Q1 2006.

### Electrical

SWITCHING POWER MIN./MAX.: 0.02mW/3 W

SWITCHING VOLTAGE MIN./MAX.: 2 V DC / 30 V DC

SWITCHING CURRENT MIN./MAX.: 10  $\mu$ A / 100 mA

DIELECTRIC STRENGTH (50 Hz, 1 min):  $\geq$  500 V

OPERATING LIFE with max. switching power:  $\geq$  10<sup>6</sup> operations

K12G & K12GO; operating life of second switch 5 x 10<sup>4</sup> operations

CONTACT RESISTANCE: Initial  $\leq$  50 m $\Omega$

INSULATION RESISTANCE:  $\geq$  10<sup>10</sup>  $\Omega$

BOUNCE TIME:  $\leq$  1 ms

Operating speed 400 mm/s (15.75/s)

### Environmental

OPERATING TEMPERATURE: -40°C to 85°C.

STORAGE TEMPERATURE: -40°C to 95°C.

### Process

SOLDERABILITY:

Max. soldering time and temperature: 5 s at 260°C

### How To Order

Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.

| Series        |                                         | LED Color   |        | Standard LED Code |        |
|---------------|-----------------------------------------|-------------|--------|-------------------|--------|
| <b>K12A</b>   | No snap-in pegs                         | <b>NONE</b> | No LED | <b>NONE</b>       | No LED |
| <b>K12AL</b>  | No snap-in pegs with central LED        | <b>GN</b>   | Green  | <b>L306</b>       | Green  |
| <b>K12P</b>   | With snap-in pegs                       | <b>YE</b>   | Yellow | <b>L327</b>       | Yellow |
| <b>K12PL</b>  | With central LED                        | <b>OG</b>   | Orange | <b>L315</b>       | Orange |
| <b>K12C</b>   | Sealed contact with rubber cap (IP 67)  | <b>RD</b>   | Red    | <b>L352</b>       | Red    |
| <b>K12GO</b>  | Two-step switch without side LED holder | <b>WH</b>   | White  | <b>L302</b>       | White  |
| <b>K12GOL</b> | K12GO with central LED                  | <b>BU</b>   | Blue   | <b>L328</b>       | Blue   |

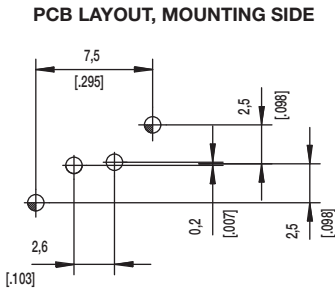
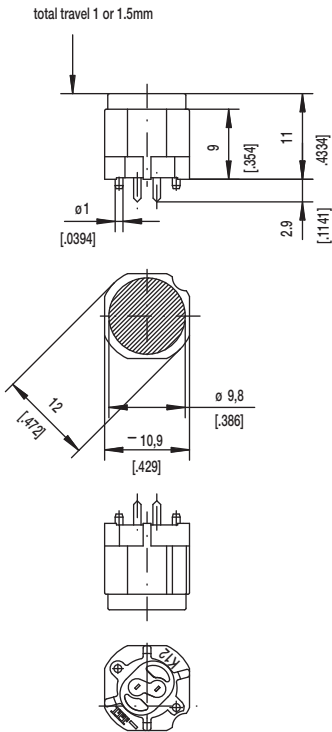
| Cap Color   |                    | Travel*    |                | Operating Force |                          | Contact Arrangement |                           |
|-------------|--------------------|------------|----------------|-----------------|--------------------------|---------------------|---------------------------|
| <b>NONE</b> | version with LED   | <b>1</b>   | 1 mm (0.039)   | <b>1.5N OD</b>  | 1.5 N without snap-point | <b>NONE</b>         | SPST NO (STD)             |
| <b>BK</b>   | Black cap – No LED | <b>1.5</b> | 1.5 mm (0.059) | <b>2.5N</b>     | 2.5 N                    | <b>1R</b>           | SPST NC (Special request) |
|             |                    | <b>2</b>   | 2 mm (0.079)   | <b>3.5N</b>     | 3.5 N                    |                     |                           |
|             |                    |            |                | <b>5N</b>       | 5 N                      |                     |                           |
|             |                    |            |                | <b>3.5/7N</b>   | 3.5/7 N**                |                     |                           |
|             |                    |            |                | <b>6/12N</b>    | 6/12 N**                 |                     |                           |

\* K12C – 1mm MAX  
K12 with LED – 1.5 mm MAX  
\*\* K12G & K12GO version only

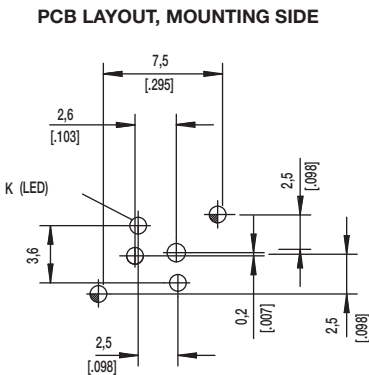
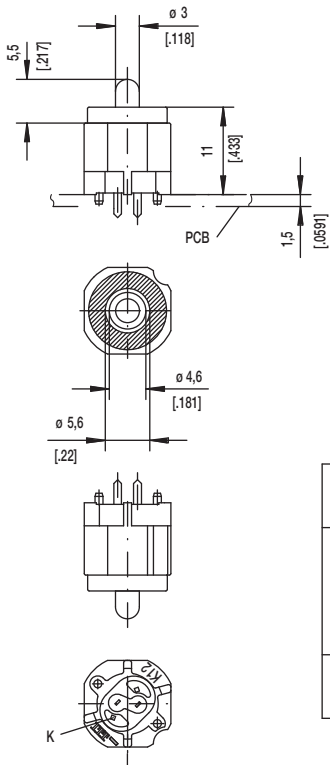
# K12 High Performance Key Switches

SERIES 

## K12A



## K12AL



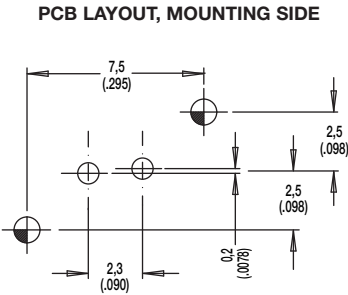
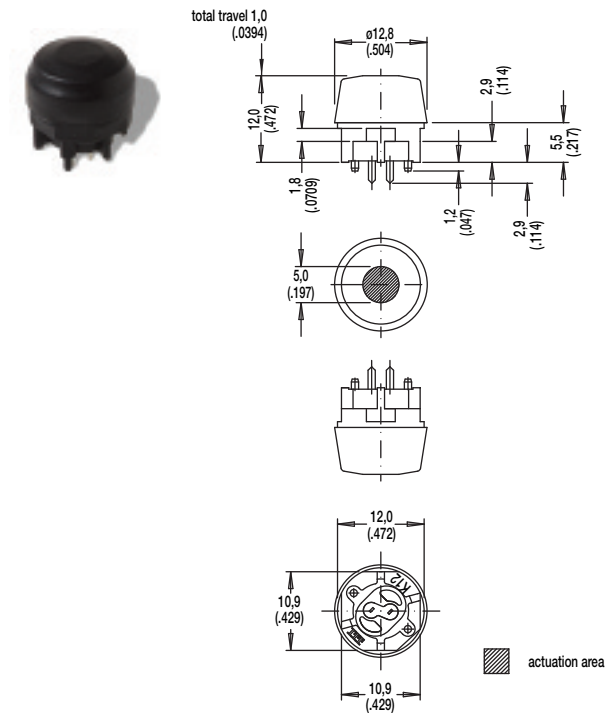
|                                                                                     |                      |         |          |             |                     |         |
|-------------------------------------------------------------------------------------|----------------------|---------|----------|-------------|---------------------|---------|
|  | 1,1 <sup>+0,05</sup> | 2x      | 2x       | center hole |                     |         |
|  | 0,9 ±0,05            |         | 2x       | LED         | ø0,5 (.020)         | Sn      |
|                                                                                     |                      | 2x      | 2x       | switch      | 0,7x0,2 (.028x.081) | Sn      |
| Hole                                                                                | ø                    | Without | with LED | Discription | Terminal Section    | Surface |



# K12 High Performance Key Switches

SERIES

**K12C** SEALED CONTACT WITH RUBBER CAP (IP 67)



| SCHEMATIC |   |
|-----------|---|
| A         | R |
|           |   |

| Hole | Ø          | Without LED | With LED | Description | Terminal Section         | Surface |
|------|------------|-------------|----------|-------------|--------------------------|---------|
|      | 1,1 (.043) | 2x          | 2x       | center hole |                          |         |
|      | 0,9 (.035) |             | 2x       | LED         | m0.5 (.0204)             | Sn      |
|      |            | 2x          | 2x       | switch      | 0.7 x 0.2(.0275 x .0787) | Sn      |

# K12

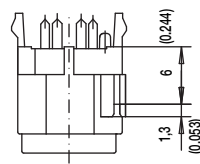
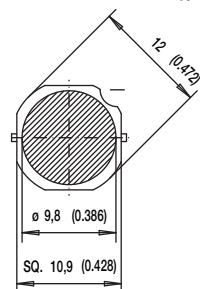
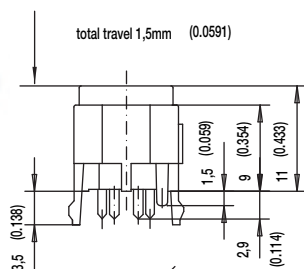
## High Performance Key Switches

SERIES

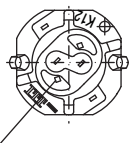
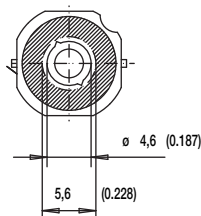
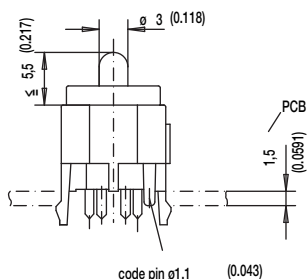
**K12G0**  
**K12GOL**



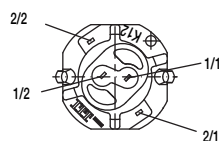
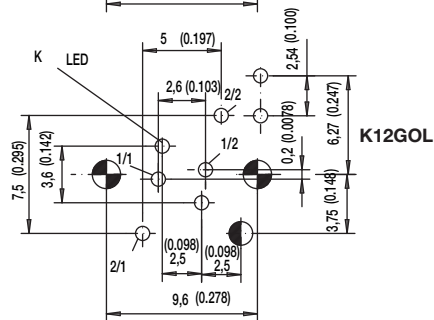
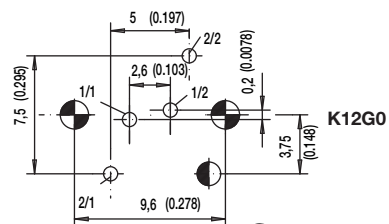
**K12G0**



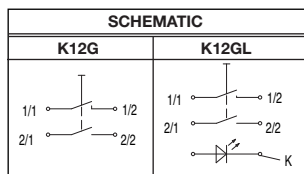
**K12GOL**



**PCB LAYOUT, MOUNTING SIDE**



actuation area



| Hole | Ø             | Without LED | With LED | Description | Terminal Section        | Surface |
|------|---------------|-------------|----------|-------------|-------------------------|---------|
|      | 1,7<br>(.069) | 2x          | 2x       | snap-in     |                         |         |
|      | 1,6<br>(.062) | 1x          | 1x       | code        |                         |         |
|      | 0,9<br>(.035) |             | 2x       | 2 LED       |                         | Sn      |
|      |               |             | 2x       | LED         | m0.5 (.020)             | Sn      |
|      |               | 2x          | 2x       | switch 2    | 0.7 x 0.3 (.028 x .012) | Sn      |
|      |               | 2x          | 2x       | switch 1    | 0.7 x 0.2 (.028 x .081) | Sn      |



First Angle  
Projection

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

[www.ittcannon.com](http://www.ittcannon.com)

| OPTION CODE | COLOR            |
|-------------|------------------|
| <b>NONE</b> | Version with LED |
| <b>BK</b>   | Black            |

| OPTION CODE | COLOR              |
|-------------|--------------------|
| NONE        | Models without LED |
| GN          | Green              |
| YE          | Yellow             |
| OG          | Orange             |
| RD          | Red                |
| WH          | White              |
| BU          | Blue               |

| STANDARD<br>LED CODE | COLOR              |
|----------------------|--------------------|
| <b>NONE</b>          | Models without LED |
| <b>L306</b>          | Green              |
| <b>L327</b>          | Yellow             |
| <b>L315</b>          | Orange             |
| <b>L352</b>          | Red                |
| <b>L302</b>          | White              |
| <b>L328</b>          | Blue               |

**1** 1 mm  
**1.5** 1.5 mm  
**2** 2 mm

| OPTION CODE    | OPERATING FORCE                |
|----------------|--------------------------------|
| <b>1.5N OD</b> | 1.5 N, 150g without snap-point |
| <b>2.5N</b>    | 2.5 N, 250g                    |
| <b>3.5N</b>    | 3.5 N, 350g                    |
| <b>5N</b>      | 5 N, 500g                      |
| <b>3.5/7N</b>  | 3.5/7 N, 350/700g              |
| <b>6/12N</b>   | 6/12 N, 600-1200g              |



First Angle  
Projection

Dimensions are shown: mm (inch)  
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