

# 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**
- **Joysticks**



### Construction:

FUNCTION: momentary  
DISTANCE BETWEEN BUTTON CENTERS:  
min. 11 (0.433) K12C = 13 (0.512)  
TERMINALS: PC pins, tinned  
MOUNTING: Locating pins; 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. Additional  
operating force 7N, 9N and 20N, available on request.  
PROTECTION CLASS: K12C IP 67 (dust tight, protected against  
the effects of immersion in water; other versions IP 40)

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

### Packaging

Bulk in boxes of 250 pieces (version C or GO) or  
300 pieces (version A, AL, P or PL)

### Electrical

SWITCHING POWER MIN./MAX.: 0.02mW/3 W  
SWITCHING VOLTAGE MIN./MAX.: 2 V DC / 30 V DC  
SWITCHING CURRENT MIN./MAX.: 10 mA /100 mA  
DIELECTRIC STRENGTH (50 Hz, 1 min):  $\geq 500$  V  
OPERATING LIFE with max. switching power:  $\geq 10^6$  operations  
K12G & K12GO; operating life of second switch  $5 \times 10^4$  operations,  
operating life K12C and version with more than 6N (7N, 9N 20N)  
please consult factory.  
CONTACT RESISTANCE: Initial  $\leq 50$  m $\Omega$   
INSULATION RESISTANCE:  $\geq 10^{10}$   $\Omega$   
BOUNCE TIME:  $\leq 1$  ms  
Operating speed 100 mm/s (3.94/s)

### Environmental

OPERATING TEMPERATURE: -40°C to 85°C.  
STORAGE TEMPERATURE: -40°C to 95°C.

### Process

SOLDERABILITY:  
Wave soldering, compatible with lead free soldering profile  
Hand soldering, 350°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.

Note: Some of the configurations may not be available or could require some development.

| Series                                             | LED Color          | Standard LED Code   | Cap Color                               | Travel*                   | Operating Force***                      | Contact Arrangement                 |
|----------------------------------------------------|--------------------|---------------------|-----------------------------------------|---------------------------|-----------------------------------------|-------------------------------------|
| <b>K12A</b> No snap-in pegs                        | <b>NONE</b> No LED | <b>NONE</b> No LED  | <b>NONE</b> version with LED, version C | <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>K12AL</b> No snap-in pegs with central LED      | <b>GN</b> Green    | <b>LV306</b> Green  | <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>K12P</b> With snap-in pegs                      | <b>YE</b> Yellow   | <b>LV327</b> Yellow | <b>YE</b> Yellow cap - No LED           | <b>2</b> 2 mm (0.079)     | <b>3.5N</b> 3.5 N                       |                                     |
| <b>K12PL</b> With central LED                      | <b>OG</b> Orange   | <b>LV315</b> Orange | <b>RD</b> Red cap - No LED              |                           | <b>5N</b> 5 N                           |                                     |
| <b>K12C</b> Sealed contact with rubber cap (IP 67) | <b>RD</b> Red      | <b>LV352</b> Red    | <b>GY</b> Gray cap - No LED             |                           | <b>3.5/7N**</b> 3.5/7 N**               |                                     |
| <b>K12GO</b> Two-step switch                       | <b>WH</b> White    | <b>LV302</b> White  |                                         |                           | <b>6/12N</b> 6/12 N**                   |                                     |
|                                                    | <b>BU</b> Blue     | <b>LV328</b> Blue   |                                         |                           |                                         |                                     |

\* K12C - 1mm MAX

K12 with LED - 1.5 mm MAX

\*\* K12G & K12GO version only

\*\*\* Additional operating force: 7N, 9N available on request

Dimensions are shown: mm

Specifications and dimensions subject to change



15 Nov 18



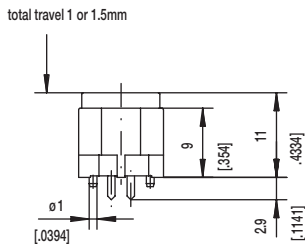
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Key Switches

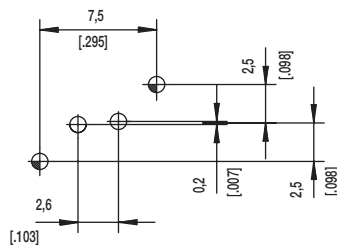
# K12

## High Performance Key Switches

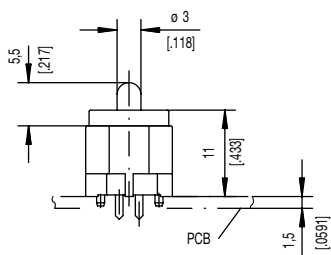
**K12A** without snap in



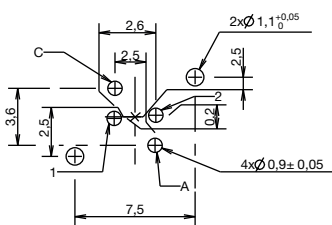
### PCB LAYOUT, MOUNTING SIDE



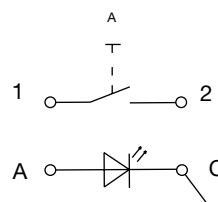
## K12AL



### PCB LAYOUT, MOUNTING SIDE



ELECTRICAL GRAPH



|                                                                                     |                      |         |          |             |                     |         |
|-------------------------------------------------------------------------------------|----------------------|---------|----------|-------------|---------------------|---------|
|  | 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 | Description | Terminal Section    | Surface |



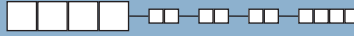
Dimensions are shown: mm  
Specifications and dimensions subject to change

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

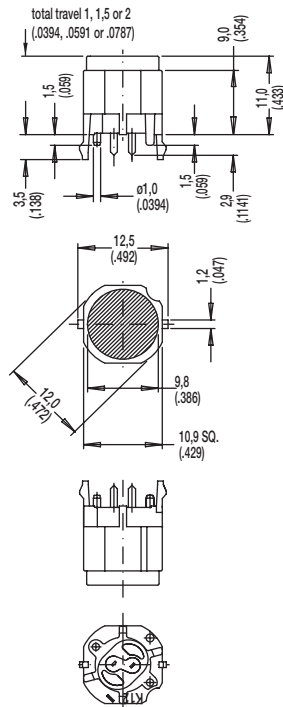
# K12

## High Performance Key Switches

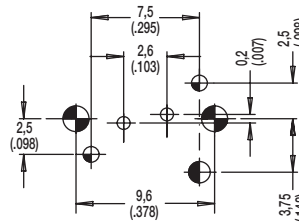
SERIES



**K12P** with snap in



PCB LAYOUT, MOUNTING SIDE

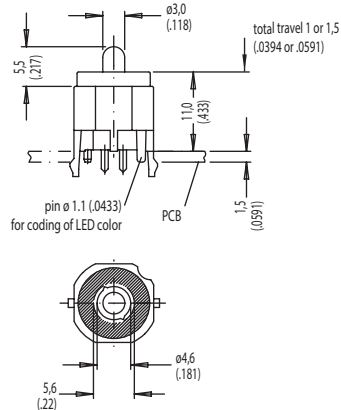


center of actuation area (notice LED)

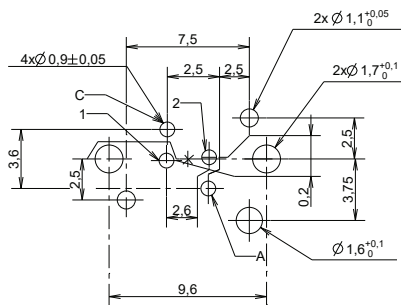


| Hole | Ø          | Without LED | Description         | Terminal Section        | Surface |
|------|------------|-------------|---------------------|-------------------------|---------|
|      | 1,7 (.069) | 2x          | snap-in             |                         |         |
|      | 1,6 (.062) | 1x          | coding hole (L,M,N) |                         |         |
|      | 1,1 (.043) | 2x          | center hole         |                         | Sn      |
|      | 0,9 (.035) | 2x          | switch              | 0.7 x 0.2 (.028 x .081) | Sn      |

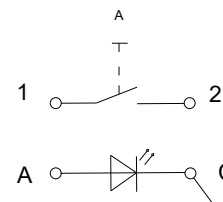
**K12PL**



PCB LAYOUT, MOUNTING SIDE



ELECTRICAL GRAPH



| Hole | Ø          | Without LED | Description         | Terminal Section        | Surface |
|------|------------|-------------|---------------------|-------------------------|---------|
|      | 1,7 (.069) | 2x          | snap-in             |                         |         |
|      | 1,6 (.062) | 1x          | coding hole (L,M,N) |                         |         |
|      | 1,1 (.043) | 2x          | center hole         |                         | Sn      |
|      | 0,9 (.035) | 2x          | LED                 | m0.5 (.020)             | Sn      |
|      |            | 2x          | switch              | 0.7 x 0.2 (.028 x .081) |         |



Dimensions are shown: mm  
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**C&K**

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D-11

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D

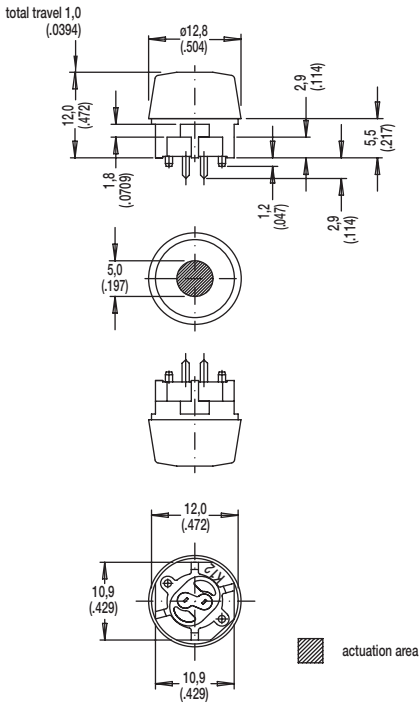
Key Switches

# K12

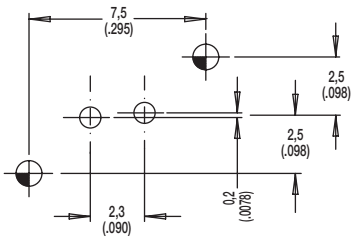
## High Performance Key Switches

SERIES

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



PCB LAYOUT, MOUNTING SIDE



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

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

Key Switches

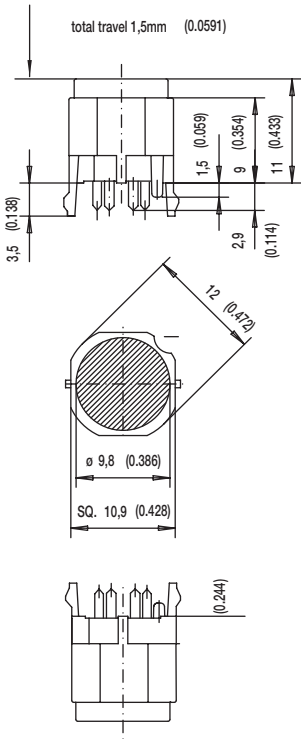


# K12

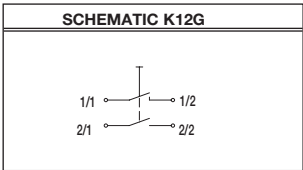
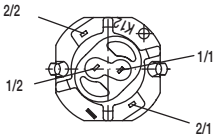
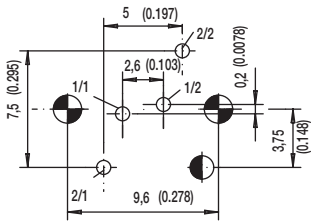
## High Performance Key Switches

SERIES 

K12GO



PCB LAYOUT, MOUNTING SIDE



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



Dimensions are shown: mm  
Specifications and dimensions subject to change

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The diagram shows a horizontal sequence of boxes connected by lines. It starts with two solid black boxes, followed by a larger white box divided vertically, and then four smaller white boxes, each also divided vertically. The first black box contains the number 10, and the second contains 11. The larger white box contains 12 on the left and 13 on the right. The four smaller white boxes contain the pairs (14, 15), (16, 17), (18, 19), and (20, 21) respectively.

| OPTION CODE | COLOR            |
|-------------|------------------|
| <b>NONE</b> | Version with LED |
| <b>BK</b>   | Black - no LED   |
| <b>YE</b>   | Yellow - no LED  |
| <b>RD</b>   | Red - no LED     |
| <b>GY</b>   | Gray - no LED    |

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

| STANDARD LED CODE | COLOR              |
|-------------------|--------------------|
| NONE              | Models without LED |
| LV306             | Green              |
| LV327             | Yellow             |
| LV315             | Orange             |
| LV352             | Red                |
| LV302             | White              |
| LV328             | Blue               |

A diagram of a linked list with 6 nodes. The first three nodes are black, and the last three are white. The fourth node is highlighted with a red border.

**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              |

## CONTACT ARRANGEMENT OPTION

**1R** SPST NC (SPECIAL REQUEST FOR NORMALLY CLOSED OPTION)



Dimensions are shown: mm  
Specifications and dimensions subject to change



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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